

THE 2020-2045 REGIONAL TRANSPORTATION PLAN/
SUSTAINABLE COMMUNITIES STRATEGY OF THE
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS



CERTIFIED FINAL
PROGRAM
ENVIRONMENTAL IMPACT
REPORT



MAY 2020

STATE CLEARINGHOUSE
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EXECUTIVE SUMMARY

In accordance with Section 15123 of the *California Environmental Quality Act (CEQA) Guidelines*,¹ this section of the Program Environmental Impact Report (PEIR) provides an overview of Connect SoCal (“Connect SoCal”; “Plan”), its potential environmental impacts and mitigation measures, and a summary of the alternatives to the proposed project evaluated in this PEIR. The summary is also required to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public, and issues to be resolved.

Connect SoCal is a long-range comprehensive plan for the region’s multi-modal transportation system. Preparing the Plan is one of SCAG’s primary statutory responsibilities under federal and state law. A regional transportation plan (RTP) is the mechanism used in California by both Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPA) to conduct long-range (at least 20-year) planning in their regions. SCAG must adopt an RTP and update it every four years, or more frequently, if the region is to receive federal and state transportation dollars for public transit, streets/roads, and bicycle and pedestrian improvements.

In 2008, California enacted the Sustainable Communities and Climate Protection Act, also known as Senate Bill 375 (Stats. 2012, Ch. 728) (SB 375), which requires MPOs to include a Sustainable Communities Strategy (SCS) element as part of their RTP updates, with the purpose of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. The SCS is required to identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an eight-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC. § 7401 *et seq.*) (Gov. Code, § 65080, subd. (b)(F)(2)(B)), of which, when integrated with the transportation network, and other transportation measures and policies will reduce the GHG from automobiles and light duty trucks to achieve, if there is a reasonable way to do so, the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the GHG emission targets set by ARB, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

¹ *State CEQA Guidelines*, Section 15123.

In 2012, SCAG adopted its first combined Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range plan for transportation in the region that links air quality, land use, and transportation needs. The RTP/SCS was last updated in 2016. The Plan updates the growth forecast, land use assumptions, and transportation investments that served as the foundation of both the 2012 and 2016 plans.

The Plan includes a growth forecast with population, household and employment growth anticipated to occur in the SCAG region by 2045; a transportation network including a list of transportation projects in the region; and a forecasted development pattern with land use and transportation strategies that the region could pursue over the Plan horizon. The Plan was developed to achieve targets for greenhouse (GHG) emissions reductions, consistent with SB 375 and other regional goals.

The Plan further identifies the purpose and goals, tracks trends and evaluates project performance, details financial assumptions and expenditures, and profiles key transportation investments. Please see the Draft Connect SoCal Plan and supplementary technical reports for full details, or visit SCAG's Connect SoCal Website located at: <https://www.connectsocial.org/Pages/default.aspx>

ES.1 BACKGROUND AND PROJECT OVERVIEW

ES.1.1 SCAG Role and Responsibilities

SCAG is one of 18 MPOs in the State of California and is comprised of the following counties: Los Angeles, Riverside, San Bernardino, Orange, Imperial and Ventura. To the north of the SCAG region are the counties of Kern and Inyo; to the east are the States of Nevada and Arizona; to the south is the County of San Diego as well as the U.S.-Mexico border; and to the west is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that have been recognized by the Regional Council, SCAG's governing body, as partners in the regional policy planning process. There are 16 federally recognized tribal sovereign nations located within the SCAG region.

In addition to the federal designation as an MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the Plan; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions

include determining the regional transportation plans and programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Needs Assessment (RHNA); and intergovernmental review of regionally significant projects. SCAG is just one part of a large body of governments and public organizations that collectively plan, construct, operate and maintain the region's transportation system. SCAG's work helps facilitate implementation, but the agency does not directly implement or construct projects.

The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints standing or ad-hoc subcommittees to study specific programs or issues.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, the primary standing committees at SCAG include; the Executive/Administration Committee; the Transportation Committee; the Community, Economic & Human Development (CEHD) Committee; the Energy & Environmental Committee; and the Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that either report to the standing committees or provide input to SCAG staff, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy.

ES.2 PROPOSED PROJECT

ES.2.1 Project Description

The Connect SoCal Plan is an update to SCAG's 2016 RTP/SCS, which had been adopted by SCAG's Regional Council on April 7, 2016 and subsequently last amended on September 2018. Building upon the progress made since the 2016 RTP/SCS, the Plan is a long-range visioning plan for the six county SCAG region, taking into account its transportation needs, existing and projected land use patterns, and job growth. It highlights the existing land use and transportation conditions throughout the SCAG region, and forecasts how it will meet the region's transportation needs between 2020 and 2045. The Plan identifies and prioritizes expenditures of this anticipated funding for transportation projects of all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian, as well as aviation

ground access. It also includes a set of visions, goals, objectives, policies and performance measures developed through public and stakeholder outreach sessions across SCAG's region.

More specifically, Connect SoCal provides a strategy for accommodating projected population, household and employment growth in the SCAG region by 2045, as well as a transportation investment strategy for the region. The Plan details how the SCAG region can achieve several outcomes essential to the success of the region's long-range transportation and land use goals. The Plan:

- Describes where and how the region can accommodate a 23 percent increase in projected households and 16 percent increase in jobs between 2020 and 2045;
- Details a regional transportation investment given \$633.9 billion in expected revenues from federal, state, regional and local sources over the next 25 years; and
- Complies with SB 375, the state's SCS law, which integrates land use and transportation planning and mandates both a reduction in greenhouse gas emissions from passenger vehicles (19% reduction for the SCAG region) and the provision of adequate housing for the region's 25-year projected population growth

The Plan is constrained by expected transportation revenues. The Plan identifies transportation and land use strategies to accommodate projected population, household and employment growth and improve the quality of life for existing and future residents.

ES.2.2 Local Input and Public Outreach

SCAG developed a "Bottom-Up Local Input and Envisioning Process," which assisted the agency in understanding as to what is happening at the local level – and formed the basis for projections and strategies in Connect SoCal. The local input process was approved and adopted by the SCAG Regional Council in October 2017.

SCAG held one-on-one meetings with all 197 local jurisdictions. In addition to seeking feedback on regional forecasts of population, household and employment growth, SCAG gathered data on land use, protected natural lands, farmland, flood areas and coastal inundation, regional bikeways, regional truck routes, planned major transit stops, high quality transit corridors, future transit priority areas, and other local data. In addition to the jurisdictions themselves, the data came from county assessors' offices, county transportation commissions, and state and federal partners.

Approximately 90 percent of local jurisdictions provided feedback on one or more data elements requested for local review. Collectively, these towns, cities and counties represent an estimated 94 percent

of the region’s residents. SCAG staff also regularly convened a series of technical advisory groups that engaged local, state, and federal agencies in the transportation and sustainable communities planning process.

Demographic Assumptions

While growth rates are at a historic low; a gradual increase to the total population is expected. In the SCAG region, a 0.6 annual growth rate corresponds to about 114,000 new residents annually, or 3.2 million new residents between 2019 and 2045. At the county level, the region anticipates population increases of 9.1% to 35.4% for its six-county area (**Table ES-1, 2019-2045 Population, Households and Employment Projects in the SCAG Region**)

**Table ES-1
2019-2045 Population, Households, and Employment Projections in the SCAG Region**

County Name	Population 2019	Population 2045	Percentage Increase	Households 2019	Households 2045	Percentage Increase	Employment 2019	Employment 2045	Percentage Increase
Imperial	207,700	281,200	35%	58,000	92,500	59%	77,300	130,200	68%
Los Angeles	10,333,600	11,677,200	13%	3,409,500	4,124,500	21%	4,826,600	5,382,200	12%
Orange	3,250,100	3,534,600	9%	1,053,500	1,153,500	10%	1,765,600	1,980,400	12%
Riverside	2,462,600	3,251,700	32%	758,300	1,086,100	43%	812,800	1,102,700	36%
San Bernardino	2,217,100	2,815,500	27%	656,500	874,800	33%	828,300	1,063,800	28%
Ventura	868,600	947,500	9%	276,100	306,400	11%	346,400	389,400	12%
SCAG Region	19,339,700	22,507,200		6,211,900	7,638,600		8,657,138	10,048,500	

Source: SCAG 2019

Financial Assumptions

In accordance with federal fiscal constraint requirements, Connect SoCal is a financially constrained Plan. Connect SoCal identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region’s surface transportation system through the forecast horizon year of 2045.

The financially constrained Connect SoCal includes both a “traditional” core revenue forecast comprised of existing local, state, and federal sources, and more innovative but reasonably available sources of revenue to implement a program of improvements.

The financial plan's forecast of core revenue totals approximately \$638.6 billion from both core and reasonably available resources. Local sources comprise 61 percent of the funding and the largest share of core revenues, followed by state sources which comprise 31 percent of revenue, federal source total 8 percent of revenue.

As shown in **Table ES-2, Connect SoCal Expenditure (in Billions)**, capital projects total \$287 billion in nominal dollars. Operating and maintenance (O&M) costs total \$316 billion, while debt service obligations total \$35.6 billion. Transit-related costs comprise the largest share of O&M costs for the region, totaling \$173.9 billion.

Table ES-2
Connect SoCal Expenditure (in Billions)

Capital Projects and Other Programs	\$287.0
Arterials	\$20.8
Goods Movement (including Grade Separations)	\$65.7
High-Occupancy Vehicle/Express Lanes	\$13.6
Mixed-Flow and Interchange Improvements	\$10.3
Transportation System Management (Including ITS)	\$13.7
Transit	\$66.8
Passenger Rail	\$53.2
Active Transportation	\$17.7
Transportation Demand Management	\$7.3
Other	\$18.1
Operations and Maintenance	\$316.0
State Highways	\$68.0
Transit	\$173.9
Passenger Rail	\$26.6
Regionally Significant Local Streets and Roads	\$47.5
Debt Service	\$35.6
Cost Total	\$638.6

Source: SCAG

Note: due to rounding, the total will not exactly match.

*Includes \$4.8 billion for active transportation in addition to capital project investment level of \$17.7 billion for a total of \$22.5 billion for active transportation improvements

**Includes Safety, Pooled Incentives, Mobility Equity Fund, Regional PEV Charger Program, and Others

ES.2.3 Goals and Guiding Principles

SCAG has developed goals for Connect SoCal, which fall into four core categories: economy, mobility, environment and healthy/complete communities. The Plan lays out goals related to housing, transportation technologies, equity and resilience in order to adequately reflect the increasing importance of these topics in the region, and where possible the goals have been developed to link to potential performance measures and targets (see **Table ES-3, Connect SoCal Goals**). The Plan's guiding policies magnifies these goals, creating a specific direction for Plan investments (see **Table ES-4 Connect SoCal Guiding Principles**).

**Table ES-3
Connect SoCal Goals**

Connect SoCal Goals	
1	Encourage regional economic prosperity and global competitiveness.
2	Improve mobility, accessibility, reliability, and travel safety for people and goods.
3	Enhance the preservation, security, and resilience of the regional transportation system.
4	Increase person and goods movement and travel choices within the transportation system.
5	Reduce greenhouse gas emissions and improve air quality.
6	Support healthy and equitable communities.
7	Adapt to a changing climate and support an integrated regional development pattern and transportation network.
8	Leverage new transportation technologies and data-driven solutions that result in more efficient travel.
9	Encourage development of diverse housing types in areas that are supported by multiple transportation options.
10	Promote conservation of natural and agricultural lands and restoration of critical habitats.

Source: SCAG Connect SoCal, 2019

**Table ES-4
Connect SoCal Guiding Principles**

Connect SoCal Guiding Principals	
1	Base transportation investments on adopted regional performance indicators and MAP-21/FAST Act regional targets.
2	Place high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system.
3	Assure that land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities.
4	Encourage RTP/SCS investments and strategies that collectively result in reduced non-recurrent congestion and demand for single occupancy vehicle use, by leveraging new transportation technologies and expanding travel choices.
5	Encourage transportation investments that will result in improved air quality and public health, and reduced greenhouse gas emissions.
6	Monitor progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies.
7	Regionally, transportation investments should reflect best-known science regarding climate change vulnerability, in order to design for long-term resilience.

Source: SCAG Connect SoCal 2019

ES.3 PROJECT LOCATION AND SETTING

The SCAG region consists of six counties that includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities. The total area of the SCAG region is approximately 38,000 square miles. Additionally, the SCAG region consists of 15 sub-regional entities that have been recognized by the Regional Council, SCAG's governing body, as partners in the regional policy planning process. The SCAG region is home to approximately 19 million people. This represents 5.8 percent of the 328 million people in the United States and 48 percent of California's population.² To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the U.S.-Mexico border; to the west is the county of San Diego; and to the northwest is the Pacific Ocean. The region includes the county with the largest land area in the nation, San Bernardino County; as well as the county with the highest population in the nation, Los Angeles County.

Transportation Network

The region's transportation network comprises more than 9,000 miles of public transit, 5,000 miles of bikeways, 135,578 lane miles of roadways, and 94 miles of express lanes. The Port of Los Angeles and Port of Long Beach are the largest container importers in the Western Hemisphere that contribute to our expansive goods movement system. The region's aviation system is one of the busiest in the world in terms of air passenger and cargo demand, with more than 110.2 million annual passengers and 3.14 million tons of cargo in 2017. Southern California features:

- 105 miles of heavy and light rail
- 534 miles of commuter rail (Metrolink)
- 9,000 miles of bus routes
- 5,075 miles of bikeways
- 135,578 total lane miles of roadways
- 94 miles of high occupancy toll (HOT) roads

Housing

As of 2018, California ranks 49th of 50 states in the number of housing units per resident. With many strong indications, high demand for housing and short supply drives up rental and home prices

² Connect SoCal Demographics & Growth Forecast Technical Report, 2019

throughout the state. Indeed, seven of the 10 most expensive housing markets in the United States are in California.

There are many contributors to the overall housing shortfall, such as zoning, costs and fees that prevent projects from being feasible, time delays, environmental litigation, community resistance to medium and high-density projects, and lack of local funding mechanisms. Additionally, population and employment growth in metropolitan areas in California has slowed in recent years because wages cannot compensate for the high cost of housing.

ES.3.1 Land Use and Transportation Strategies

Since the Plan foresees regional growth along with transportation system improvements, it identifies strategies to increase transportation choices with a reduced dependence on automobiles and an increase growth in walkable, mixed-use communities and HQTAs. Increased choices in mobility, enhanced quality of life, and increasing sustainability practices could also lead to improved air quality in the region. Thus, the Plan focuses on land use strategies and transportation investments that would enable the SCAG region to develop into a more sustainable region.

Land Use Strategies

The land use strategies included in the Connect SoCal Plan are built upon strategies listed in the 2016 RTP/SCS and are intended to increase travel mode choices, guide future land development, and improve air quality. It also attempts to balance the region's land use choices with its transportation investments.

The Plan includes land use strategies with the committed and projected transportation investments such that they emphasize system preservation and enhancement, active transportation, and land use integration. These strategies identify how the SCAG region can implement Connect SoCal and achieve related GHG reductions. It is important to note that SCAG does not have a direct role in implementing the Sustainable Communities Strategy – neither through decisions about what type of development goes where, nor what transportation projects are ultimately built. Connect SoCal's land use strategies are as follows:

1. Focus Growth Near Destinations and Mobility Options
2. Promote Diverse Housing Choices
3. Leverage Technology Innovations
4. Support Implementation of Sustainability Policies
5. Promote a Green Region

Priority Growth Areas

Consideration of the Plan requires an understanding of several more localized geographies. Priority Growth Areas (PGAs) follow the principles of center-focused placemaking. Connect SoCal's PGAs – Job Centers, Transit Priority Areas (TPA), High Quality Transit Areas (HQTA), Neighborhood Mobility Areas (NMAs), and Livable Corridors – account for only five percent of region's total land area, but implementation of SCAG's recommended growth strategies will help these areas accommodate 76 percent of forecasted household growth and 86 percent of forecasted employment growth between 2016 and 2045. This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces, and conserve the region's resource areas.

Transportation Strategies

Connect SoCal recognizes that the region can no longer afford to rely solely on expanding the transportation system to address the region's many changes and challenges. There is a need to use a comprehensive planning approach for a transportation system that focuses on preservation, sustainability, and productivity, as well as strategic expansion. Anticipated land use patterns as part of Connect SoCal provide a strategic opportunity to build a smart transportation system that is responsive to the region's changes and challenges. Connect SoCal includes proposed strategies for transportation investments, totaling approximately \$638.6 billion (See **Table ES-2, Connect SoCal Expenditure [in billions]**). Select transportation strategies are as follows:

- System Preservation.
- *Congestion Management Process.* Federal regulations require the development, establishment and implementation of a CMP. Consistent with federal requirements, SCAG implements, monitors and evaluates these actions as part of Connect SoCal.
- *Congestion Pricing.* Connect SoCal identified three congestion pricing strategies, two of which were incorporated into the 2012 and 2016 RTP/SCS:
 - Develop a network of express lanes, that connects to existing express lanes in order to accommodate growing inter-county travel
 - Establish a mileage-based user fee to generate a funding source for aging infrastructure and construction of other travel options
 - Develop Cordon/Area Pricing which involves charging a variable or fixed fee to drive into or within a highly congested area.

- **Transportation Demand Management.** Connect SoCal commits \$7.3 billion through 2045 to implement TDM strategies throughout the region. There are three primary goals of this program:
 - Reduce the number of SOV trips and per capita VMT through ridesourcing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit
 - Redistribute or eliminate vehicle trips during peak demand periods by supporting telecommuting and alternative work schedules
 - Reduce the number of SOV trips through use of other modes such as transit, rail, bicycling, and walking, or other micro-mobility modes
- **Passenger Rail.** Connect SoCal strategies for passenger rail in the SCAG region consists of four main elements:
- **Active Transportation.** Active Transportation strategies are grouped into eight categories that address trip type as well as a range of regional priorities. Specific details on the Active Transportation Strategies highlighted below can be found in the Active Transportation Technical Report.

Transportation Safety. Connect SoCal prioritizes the safety and mobility of the region’s residents, including drivers and passengers, transit riders, pedestrians, and bicyclists. SCAG’s Safety strategies are largely grounded in the State’s Strategic Highway Safety Plan (SHSP) that helps member agencies interested in pursuing safety initiatives and strategies at the local level. SCAG outlines detailed strategies and actions that local jurisdictions and county transportation commissions can undertake to enhance safety in our region in the transportation safety and security report.

Highway and Arterial Network. Connect SoCal emphasizes working with partner implementing agencies to prioritize projects that preserve and optimize the existing highway and arterial network. Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll lanes and Express/HOT lanes. The complete list of projects can be found in **Appendix 2.0, Project List**.

Goods Movement. SCAG has developed key strategies to realize a regional vision that maintains regional economic competitiveness, promotes job creation and retention, increased freight mobility and safety, and mitigating environmental impacts. Specific details of goods movement challenges and strategies can be found in the Goods Movement Technical Report. Key strategies include:

Aviation. SCAG, by definition, is primarily a regional surface transportation planning agency. Therefore, SCAG is focused on air passenger and cargo activity from the perspective of how the traffic coming and going from the airports affects the region’s roads, highways, and transit systems, and how to improve

ground transportation access to the airports. On a basic level, SCAG maintains an updated list of airport ground access improvements. However, SCAG has and will continue to play a role in terms of aviation systems research, planning, and analysis, as well as encouraging collaboration and communication amongst the region’s aviation stakeholders.

Emerging Technologies. SCAG recognizes that many new technologies provide consumer solutions and have made inroads in public acceptance due to advancements in smartphones, mobile banking, navigational apps and social networking. Improvements in regional mobility will therefore be derived from how technology is used rather than from any individual technological development. Moreover, strategies to use the benefits of emerging technologies to advance Connect SoCal goals should be viewed through the lens of improving health, safety, equity and mobility outcomes.

ES.4 ALTERNATIVES TO THE PROJECT

CEQA requires an Environmental Impact Report (EIR) to describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or substantially lessen significant environmental impacts while attaining most of the project objectives.³ Plan alternatives are evaluated as to how well they achieve the goals, policies, and objectives, the extent of their environmental impacts compared to the Plan, and whether or not they reduce or eliminate significant impacts caused by the Plan. These alternatives include:

Alternative 1: No Project Alternative

The No Project Alternative is required by Section 15126.6I(2) of the *CEQA Guidelines* and assumes that the Plan would not be implemented. The No Project Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative evaluates “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (*CEQA Guidelines* Section 15126.6I(2)). The No Project Alternative is aligned with the Trend/Baseline Scenario⁴ and includes transportation projects that are in place at the time of preparation of the Connect SoCal Plan and that are included in the first two years of the previously conforming transportation plan and/or federal transportation improvement program (FTIP). “Exempt projects” include safety projects and certain mass transit projects, transportation control measures (“TCMs”) that are approved by the State Implementation Plan, and project phases that were authorized by the FHWA/FTA prior to expiration of SCAG’s conformity finding for the adopted 2016 RTP/SCS.

³ CEQA Guidelines, California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, § 15126.6. 2005

⁴ Connect SoCal – Sustainable Communities Strategy Technical Report.

These exempt projects would also be included in the No Project Alternative since they could move forward in the absence of an adopted Connect SoCal Plan.⁵

The land use strategies included in the No Project Alternative are based on the trending socioeconomic growth projection to the future (2045) updated with the same jurisdictional local input population, household and employment data as those in the Connect SoCal Plan to reflect the most recent local input growth estimates in the region.

Alternative 2: Existing Plans - Local Input Alternative

The Existing Plans - Local Input Alternative is aligned with the Existing Plans – Local Input Scenario in the Plan.⁶ This alternative incorporates local general plans and land use information to reflect the Plan’s population, household and employment growth estimates in the region. The Plan’s transportation and land use strategies are not included in this alternative. The transportation network analyzed under this alternative are the transportation projects planned by each County Transportation Commission (CTC) in the region. In general, this alternative represents a more dispersed land use pattern as compared to Connect SoCal.

Alternative 3: Intensified Land Use Alternative

This Intensified Land Use Alternative is based off the Plan’s transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario.⁷ The land use pattern builds on the land use strategies as described in the Connect SoCal Plan and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around HQTAs in an effort to maximize transit opportunities. The growth pattern associated with this alternative optimizes urban areas and suburban town centers, transit-oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater progressive job-housing distribution optimized for TODs and infill in HQTAs. It includes the same transportation investments as the Plan. This alternative considers the basis of the Plan with enhancements to accelerate the SB 375 GHG emissions reduction trend into 2045 and beyond, and includes related improvements for air quality, livability, public health, active transportation opportunities, and affordability.

5 Federal Highway Administration. *Transportation Conformity: A Basic Guide for State and Local Officials* (Revised 2010), FHWA-HEP-11-001. Available at:

http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide10.cfm

6 Connect SoCal – Sustainable Communities Strategy Technical Report.

7 Connect SoCal – Sustainable Communities Strategy Technical Report.

ES.5 AREAS OF KNOWN CONTROVERSY

A Notice of Preparation (NOP) for this PEIR was issued on January 23, 2019 by SCAG for a 30-day public review period. A total of 22 comment letters were received. The NOP and copies of each comment letter received are included in **Appendix 1.0** of the PEIR. Two scoping meetings were held on February 13, 2019. The purpose of these meetings was to provide early consultation for the public to express their concerns about the project and acquire information and make recommendations on issues to be addressed in the PEIR. In accordance with Sections 15087 and 15105 of the CEQA Guidelines, this PEIR is being circulated for a 45-day public review period. Responsible and trustee agencies and the public are invited to comment in writing on the information contained in this document. Persons and agencies commenting are encouraged to provide information that they believe is missing from the Draft PEIR and to identify where the information can be obtained. All comment letters received concerning the PEIR will be responded to in writing, and the comment letters, together with the responses to those comments, will be included in the Final PEIR.

Comments received in response to the published NOP (provided in **Appendix 1.0**) identified environmental topics that local and regional agencies and City residents recommended for analysis in the Draft EIR. These topics include:

- Biological Resources
- Vehicle Miles Traveled (VMT)
- Air Quality
- Greenhouse Gases and Climate Change
- Mitigation Measures

ES.6 ISSUES TO BE RESOLVED

The *State CEQA Guidelines* require an EIR to present issues to be resolved by the lead agency. These issues include the choice between alternatives and whether or how to mitigate potentially significant impacts. The major issues to be resolved by SCAG, as the Lead Agency for the project include the following:

- Whether the recommended mitigation measures should be adopted or modified;
- Whether additional mitigation measures need to be applied to the project; and
- Whether the project or an alternative should be approved.

ES.7 SUMMARY OF PROJECT IMPACTS

A summary of the environmental impacts associated with implementation of the proposed project, mitigation measures included to avoid or lessen the severity of potentially significant impacts, and residual impacts, is provided in **Table ES-5, Summary of Project Impacts, Mitigation Measures, and Residual Impacts**, below.

As discussed in **Chapter 1.0, Introduction**, SCAG has no concurrent authority/jurisdiction to implement mitigation related to land use plans and projects that implement the Plan. With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

CEQA case law has also held that deferral of the specifics of mitigation is permissible where the lead agency commits itself to mitigation and, in the mitigation measure, either describes performance standards to be met in future mitigation or provides a menu of alternative mitigation measures to be selected from in the future (*California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603 [the details of exactly how the required mitigation and its performance standards will be achieved can be deferred pending completion of a future study]; *Endangered Habitats League Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 793 [deferred mitigation acceptable when performance standards are included]; *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1448–1450 [a deferred approach may be appropriate where it is not reasonably practical or feasible to provide a more complete analysis before approval and the EIR otherwise provides adequate information of the project’s impacts]; *Sacramento Old City Assn. v. City Council of Sacramento*, supra, 229 Cal.App.3d at 1028–1029 [deferral of agency’s selection among several alternatives based on performance criteria was appropriate]).⁸ CEQA Guidelines section 15126.4(a)(1)(B) codifies this concept:

“Formulation of mitigation should not be deferred until some future time. However, measures may specify performance standard which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.”

⁸ Note that in litigation challenging SANDAG’s adoption of its 2050 Regional Transportation Plan/Sustainable Communities Strategy, the California Court of Appeal found that “[a]n EIR may not defer the formulation of mitigation measures to a future time, but mitigation measures may specify performance standards which would mitigate the project’s significant effects and may be accomplished in more than one specified way.” *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2014) 231 Cal. App. 4th 1056, 1089 (partially reversed on other grounds by *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497).

Mitigation measures are subject to the same rules regarding level of detail appropriate to the EIR being prepared. In this case, the PEIR addresses a large-scale region with a variety of projects spread over more than 20 years. As such, this PEIR identifies program-wide measures for implementation by SCAG. In addition, the PEIR identifies project-level mitigation measures for lead agencies to consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. It is ultimately up to the lead agency to determine the appropriateness of the mitigation measure based on project-specific circumstances. As appropriate and authorized by the *CEQA Guidelines* and case law, the program-wide mitigation measures included in this PEIR are less detailed than those that would be part of a project EIR and the selection of detailed mitigation measures is properly deferred to future project-specific CEQA reviews.

The project-level mitigation measures identified by SCAG (or comparable measures) “can and should” be considered by lead agencies in project-specific environmental review documents as appropriate and feasible. This language mirrors *CEQA Guidelines* section 15091(a)(2), and it is assumed that each lead agency for specific projects would have the ability to impose and enforce these measures (i.e., that they can implement them). Lead agencies for specific projects are responsible for developing project specific mitigation measures and ensuring adherence to such mitigation measures.

While the PEIR strives to provide as much detail as possible in the mitigation measures, some flexibility must be maintained to present mitigation approaches for impacts occurring over a large geographic scope and caused by a wide variety of transportation and land use activities. CEQA case law provides that a first-tier EIR may contain generalized mitigation criteria (see, e.g., *Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29). In addition, in each resource area, the PEIR identifies mitigation measures which are performance standards-based, which lead, responsible, or trustee agencies “can and should” comply with in assessing and mitigating project-specific impacts. SCAG then identifies examples of project-level mitigation measures that may be required by lead agencies, to meet performance standards. Lead agencies may also identify other comparable measures capable of reducing impacts below the specified threshold.

For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226, or for projects otherwise tiering off this PEIR, the project-level mitigation measures described in this PEIR (or comparable measures) can and should be considered and implemented by lead agencies (and project sponsors) during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require lead agencies to adopt mitigation, and it is ultimately the responsibility of the lead agency to determine and adopt project-specific mitigation as appropriate and feasible for each project.

The performance standards-based mitigation measures used in this PEIR recognize the limits of SCAG's authority; distinguish between SCAG commitments and project-level responsibilities and authorities; optimize flexibility for project implementation; and facilitate CEQA streamlining and tiering where appropriate on a project-by-project basis determined by each lead agency.⁹

⁹ Note that compliance with existing regulations, such as the Uniform Building Code and California Building Code, is not necessarily considered mitigation because compliance is already required. However, such regulations do reduce environmental impacts and are identified herein where appropriate, to provide additional information on the how potential impacts are reduced. In some cases, as indicated in the PEIR, regulatory compliance is sufficient to reduce impacts to a level of less than significance. In other cases, mitigation is proposed to ensure and/or specify the means of compliance with regulations that lack specificity.

**Table ES-5
Summary of Project Impacts, Mitigation Measures, and Residual Impacts**

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
AESTHETICS		
<p>Impact AES-1: Potential for the Plan to have a substantial adverse effect on a scenic vista.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM AES-1: SCAG shall facilitate minimizing impacts to scenic vistas through cooperation, information sharing regarding the locations of designated scenic vistas, and regional program development as part of SCAG’s ongoing regional planning efforts, such as web-based planning tools for local government including REVISION, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as sharing of associated online training materials. Caltrans and lead agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM AES-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts to scenic vistas, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development. b) Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile. c) Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas. d) Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements. e) Retain or replace trees bordering highways, so that clear-cutting is not evident. f) Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features and is complementary to the dominant landscaping or native habitats of surrounding areas. g) Reduce the visibility of construction staging areas by fencing and screening these areas with low contrast materials consistent with the surrounding environment, and by revegetating graded slopes and exposed earth surfaces at the earliest opportunity; h) Use see-through safety barrier designs (e.g. railings rather than walls) 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact AES-2: Potential to substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.</p>	<p><i>SCAG Mitigation Measures</i> See SMM AES-1. <i>Project Level Mitigation Measures</i> See PMM AES-1.</p>	<p>Significant and unavoidable</p>
<p>Impact AES-3: Potential to substantially degrade the existing visual character or quality of public views (public views are those that are experienced from publicly accessible vantage points). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.</p>	<p><i>SCAG Mitigation Measures</i> See SMM AES-1. <i>Project Level Mitigation Measures</i> PMM AES-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable. b) Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors. c) Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible, or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria. d) Design projects consistent with design guidelines of applicable general plans. e) Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape. f) Where sound walls are proposed, require sound wall construction and design methods that account for visual impacts as follows: <ul style="list-style-type: none"> - use transparent panels to preserve views where sound walls would block views from residences; - use landscaped earth berm or a combination wall and berm to minimize the apparent sound wall height; - construct sound walls of materials whose color and texture complements the surrounding landscape and development; g) Design sound walls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area; and landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact AES-4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.</p>	<p style="text-align: center;">dominant landscaping of surrounding areas.</p> <p><i>SCAG Mitigation Measures</i></p> <p>SMM AES-2: SCAG shall facilitate minimizing impacts on aesthetics related to new sources of light or glare through cooperation, information sharing regarding guidelines and policies, design approaches, building materials, siting, and technology, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online training materials. Lead agencies, such as county and city planning departments, shall be consulted during this update process.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM AES-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. b) Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m. c) Use high-pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting. d) Use unidirectional lighting to avoid light trespass onto adjacent properties. e) Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses. f) Provide structural and/or vegetative screening from light-sensitive uses. g) Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses. h) Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces. i) Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties. 	<p>Significant and unavoidable</p>
AGRICULTURAL RESOURCES		
<p>Impact AG-1: Potential for the Plan to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM AG-1: SCAG shall host a Natural & Farm Lands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the development of a Natural Lands Conservation Strategy for the Connect SoCal Plan.</p> <p>SMM AG-2: SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG’s subregions to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures.</p> <p>SMM AG-3: SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.</p> <p>SMM AG-4: SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Technical Report strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM AG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to address potential adverse effects on agricultural resources, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Require project sponsors to mitigate for loss of farmland by providing permanent protection of in-kind farmland in the form of easements, fees, or elimination of development rights/potential. b) Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance. c) Maintain and expand agricultural land protections such as urban growth boundaries. d) Provide for mitigation fees to support a mitigation bank¹⁰ that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands. e) Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access. f) Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland. 	
<p>Impact AG-2: Potential for the Plan to conflict with existing zoning for agricultural use, or a Williamson</p>	<p><i>SCAG Mitigation Measures</i> See SMM AG-1 through SMM AG-4.</p>	<p>Significant and unavoidable</p>

¹⁰ The California Department of Fish and Wildlife provides a definition for conservation or mitigation banks on their website (please see <https://www.wildlife.ca.gov/Conservation/Planning/Banking>).

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Act contract.</p>	<p><i>Project Level Mitigation Measures</i> See PMM AG-1. PMM AG-2: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects on Williamson Act contracts to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:</p> <ul style="list-style-type: none"> a) Project relocation or corridor realignment to avoid lands in Williamson Act contracts. b) Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection. 	
<p>Impact AG-3: Potential for the Plan to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).</p>	<p><i>SCAG Mitigation Measures</i> See SMM AG-1 through SMM AG-2. <i>Project Level Mitigation Measures</i> PMM AG-3: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland to maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:</p> <ul style="list-style-type: none"> a) Minimize construction related impacts to agricultural and forestry resources by locating materials and stationary equipment in such a way as to prevent conflict with agriculture and forestry resources. 	
<p>Impact AG-4: Potential for the Plan to result in the loss of forest land or conversion of forest land to non-forest use.</p>	<p><i>SCAG Mitigation Measures</i> See SMM AG-1 through SMM AG-2. <i>Project Level Mitigation Measures</i> See PMM AG-3</p>	<p>Significant and unavoidable</p>
<p>Impact AG-5: Potential for the Plan to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</p>	<p><i>SCAG Mitigation Measure</i> See SMM AG-1 through SMM AG-2 and SMM-GHG-1 through SMM-GHG-5. <i>Project Level Mitigation Measures</i> See PMM AG-2 and PMM GHG-2. PMM AG-4: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:</p> <ul style="list-style-type: none"> a) Design proposed projects to minimize, to the greatest extent feasible, the loss of the highest valued agricultural land. 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>b) Redesign project features to minimize fragmenting or isolating Farmland. Where a project involves acquiring land or easements, ensure that the remaining non-project area is of a size sufficient to allow economically viable farming operations. The project proponents shall be responsible for acquiring easements, making lot line adjustments, and merging affected land parcels into units suitable for continued commercial agricultural management.</p> <p>c) Reconnect utilities or infrastructure that serve agricultural uses if these are disturbed by project construction. If a project temporarily or permanently cuts off roadway access or removes utility lines, irrigation features, or other infrastructure, the project proponents shall be responsible for restoring access as necessary to ensure that economically viable farming operations are not interrupted.</p> <p>PMM AG-5: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:</p> <p>a) Manage project operations to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land. Where a project has the potential to introduce sensitive species or habitats or have other spill-over effects on nearby agricultural lands, the project proponents shall be responsible for acquiring easements on nearby agricultural land and/or financially compensating for indirect effects on nearby agricultural land. Easements (e.g., flowage easements) shall be required for temporary or intermittent interruption in farming activities (e.g., because of seasonal flooding or groundwater seepage). Acquisition or compensation would be required for permanent or significant loss of economically viable operations.</p>	
AIR QUALITY		
<p>Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.</p>	<p>No mitigation is required.</p>	<p>Less than significant</p>
<p>Impact AQ-2: Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM-AQ-1: SCAG shall develop the Southern California Disadvantaged Communities Planning Initiative which would provide funds to selected applicants to develop a low-cost, high-impact model which leverages SCAG's staff, data, and outreach resources to deliver context-sensitive plans in high-need, low-resourced active transportation infrastructure and frameworks. As part of the initiative, the model will be operationalized through the development of plans in six communities and refined to provide a sustainable resource for SCAG staff to partner with local agencies to develop local active transportation plans.</p> <p>SMM-AQ-2: SCAG shall continue its commitment to analyze public health outcomes as part of the Connect SoCal. As part of the public health analysis for the Plan, SCAG shall continue to analyze the plan's impacts on air quality through its Public Health Working group and continue to support policy change at the city and country level through education programs.</p> <p>SMM-AQ-3: SCAG shall continue to conduct air quality-related technical analyses on the region, specifically in vulnerable areas that are typically environmental justice areas. For example, SCAG staff conducted technical analysis of emissions impacts on populations within 500 feet of freeways and highly</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>travelled corridors in the Connect SoCal Environmental Justice Appendix. SCAG staff shall also continue to work with districts and relevant stakeholders to be informed of any updates new and/or changes to air quality issue areas through various forums like the Environmental Justice Working Group.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Minimize land disturbance. b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes. c) Cover trucks when hauling dirt. d) Stabilize the surface of dirt piles if not removed immediately. e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads. f) Minimize unnecessary vehicular and machinery activities. g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities. i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications. j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet. k) Ensure that all construction equipment is properly tuned and maintained. l) Minimize idling time to 5 minutes—saves fuel and reduces emissions. m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway. n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators. o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>and ensure safety at construction sites.</p> <p>p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.</p> <p>q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.</p>	
<p>Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.</p>	<p><i>SCAG Mitigation Measures</i> See SMM AQ-1, SMM AQ-2, SMM, and SMM AQ-3. <i>Project Level Mitigation Measures</i> See PMM-AQ-1.</p>	<p>Significant and unavoidable</p>
<p>Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations.</p>	<p><i>SCAG Mitigation Measures</i> See SMM AQ-1, SMM AQ-2, SMM, and SMM AQ-3. <i>Project Level Mitigation Measures</i> See PMM-AQ-1.</p>	<p>Significant and unavoidable</p>
<p>Impact AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</p>	<p>No mitigation is required.</p>	<p>Less than significant</p>
<p>BIOLOGICAL RESOURCES</p>		
<p>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.</p> <p>SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>suiting for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible. b) Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include: <ul style="list-style-type: none"> i. Impact minimization strategies ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts iii. Use of in-kind mitigation bank credits iv. Funding of research and recovery efforts v. Habitat restoration vi. Establishment of conservation easements vii. Permanent dedication of in-kind habitat c) Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies. d) Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species e) Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources. f) Retain a qualified botanist to document the presence or absence of special status plants before project implementation. g) Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact. h) Appoint a qualified biologist to monitor implementation of mitigation measures. 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> i) Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased. j) Develop an invasive species control plan associated with project construction k) If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife l) Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance. m) Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel. 	
<p>Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.</p>	<p><i>SCAG Mitigation Measures</i> See SMM BIO-1 and SMM BIO-2.</p> <p><i>Project Level Mitigation Measures</i> See PMM BIO-1.</p> <p>PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA. b) Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino. c) Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code. d) Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds. e) Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>pursuant to the MBTA during the breeding season.</p> <ul style="list-style-type: none"> f) Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities. g) Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible. h) Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required. i) Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities. j) Appoint a qualified wetland biologist to monitor implementation of mitigation measures. k) Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased. l) When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects. m) Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant an adopted regional conservation plan. n) Install fencing and/or mark sensitive habitat to be avoided during construction activities. o) Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist. p) Revegetate with appropriate native vegetation following the completion of construction activities, as identified by the qualified wetland biologist. q) Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species). r) Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport. 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact BIO-3: Have a substantial adverse effect on State or Federally Protected Wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.</p>	<p><i>SCAG Mitigation Measures</i> See SMM BIO-1 and SMM BIO-2.</p> <p><i>Project Level Mitigation Measures</i> See PMM BIO-1 and PMM BIO-2.</p> <p>PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands. Such measures may include the following or other comparable measures identified by the Lead Agency.</p> <ol style="list-style-type: none"> a) Require project design to avoid federally protected aquatic resources consistent with the provisions of Sections 404 and 401 of the CWA, wherever practicable and feasible. b) Where the lead agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters, such as those considered Waters Of the State of California under the State Wetland Definition and Procedures for Dischargers of Dredged or Fill Material to Waters of the State , not protected under Section 404 or 401 of the CWA, seek comparable coverage for these wetlands and waters in consultation with the SWRCB, applicable RWQCB, and CDFW. c) Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federal and state protected aquatic resource to support issuance of a permit under Section 404 of the CWA as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE’s Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration’s performance standard of “no net loss of wetlands” a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation: <ul style="list-style-type: none"> - Permittee-responsible mitigation - Contribution of in-kind in-lieu fees - Use of in-kind mitigation bank credits - Where avoidance is determined to be infeasible and d) Where avoidance is determined to be infeasible and proposed projects’ impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities: 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> - Avoidance - Impact Minimization - On-site alternatives - Off-site alternatives <p>e) Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether aquatic resources will be affected and, if necessary, perform formal wetland delineation</p>	
<p>Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p>	<p><i>SCAG Mitigation Measures</i> See SMM BIO-1 and SMM BIO-2, SMM AG-1 through SMM AG-4, SMM GHG-1, SMM WF-1.</p> <p>SMM BIO-3: SCAG shall encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.</p> <p><i>Project Level Mitigation Measures</i> See PMM BIO-1 through PMM BIO-3.</p> <p>PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino. b) Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans. c) Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season. d) Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31. e) Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season. f) Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season. g) When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>corridors.</p> <ul style="list-style-type: none"> h) Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site. i) Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor. j) Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation. k) Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat). l) When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches. m) Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities. n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction. o) Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in MM-BIO-1(b), where applicable: <ul style="list-style-type: none"> - Wildlife movement buffer zones - Corridor realignment - Appropriately spaced breaks in center barriers - Stream rerouting - Culverts - Creation of artificial movement corridors such as freeway under- or overpasses - Other comparable measures p) Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions. 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p>	<p>SCAG Mitigation Measures See SMM BIO-1, SMM BIO-2 and SMM BIO-3. <i>Project Level Mitigation Measures</i> See PMM BIO-1 through PMM BIO-4. PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources. Such measures may include the following or other comparable measures identified by the Lead Agency.</p> <ul style="list-style-type: none"> a) Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources. b) Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by an International Society of Arboriculture (ISA) certified arborist. c) If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species, as directed by a qualified biologist. d) Appoint an ISA certified arborist to monitor construction activities that may occur in areas with trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," to facilitate avoidance of resources not permitted for impact. Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed. e) Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree. f) Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree. g) Thoroughly spray the leaves of protected trees with water periodically during construction to 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>prevent buildup of dust and other pollution that would inhibit leaf transpiration, as directed by the certified arborist.</p> <p>h) If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, as determined by the certified arborist, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. Design projects to avoid conflicts with local policies and ordinances protecting biological resources</p> <p>i) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such as to support issuance of a tree removal permit. The consideration of conservation measures may include:</p> <ul style="list-style-type: none"> - Avoidance strategies - Contribution of in-lieu fees - Planting of replacement trees - Re-landscaping areas with native vegetation post-construction - Other comparable measures developed in consultation with local agency and certified arborist. 	
<p>Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.</p>	<p><i>SCAG Mitigation Measures</i> SMM BIO-1, SMM BIO-2 and SMM BIO-3.</p> <p><i>Project Level Mitigation Measures</i> See PMM BIO-1 through PMM BIO-5.</p> <p>PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs. b) Wherever practicable and feasible, the project shall be designed to avoid lands preserved under the conditions of an HCP or NCCP. c) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California ESA, shall be developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in SMM-BIO-2, where applicable. 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
CULTURAL RESOURCES		
<p>Impact CULT-1: Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>SMM CULT-1: Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG’s ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify archaeological sites, historical resources, and cemeteries to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Pursuant to <i>CEQA Guidelines</i> Section 15064.5, conduct a record search during the project planning phase at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historical resources were identified. b) During the project planning phase, retain a qualified architectural historian, defined as an individual who meets the Secretary of the Interior’s (SOI) Professional Qualification Standards (PQS) in Architectural History, to conduct historic architectural surveys if a built environment resource greater than 45 years in age may be affected by the project or if recommended by the Information Center. c) Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following: <ul style="list-style-type: none"> – Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior’s Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible. – Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources. d) If a project requires the relocation, rehabilitation, or alteration of an eligible historical resource, the Secretary of the Interior’s Standards for the Treatment of Historic Properties should be used 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>to the maximum extent possible to ensure the historical significance of the resource is not impaired. The application of the standards should be overseen by an architectural historian or historic architect meeting the SOI PQS. Prior to any construction activities that may affect the historical resource, a report, meeting industry standards, should identify and specify the treatment of character-defining features and construction activities and be provided to the Lead Agency for review and approval.</p> <ul style="list-style-type: none"> e) If a project would result in the demolition or significant alteration of a historical resource eligible for or listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or local register, recordation should take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and should be performed by an architectural historian or historian who meets the SOI PQS. Recordation should meet the SOI Standards and Guidelines for Architectural and Engineering, which defines the products acceptable for inclusion in the HABS/HAER/HALS collection at the Library of Congress. The specific scope and details of documentation should be developed at the project level in coordination with the Lead Agency. f) During the project planning phase, obtain a qualified archaeologist, defined as one who meets the SOI PQS for archaeology, to conduct a record search at the appropriate Information Center of the California Historical Resources Information System (CHRIS) to determine whether the project area has been previously surveyed and whether resources were identified. g) Contact the NAHC to request a Sacred Lands File search and a list of relevant Native American contacts who may have additional information. h) During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. In the event the records indicate that no previous survey has been conducted, the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources. i) If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Archaeological materials collected from a significant resource should be curated with a recognized scientific or educational repository j) If a record search or archaeological assessment indicates that the project is located in an area 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, retain an archaeological monitor to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The archaeological monitor should be supervised by an archaeologist meeting the SOI PQS</p> <p>k) Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated.</p> <p>l) Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant. If the archaeologist determines that the discovery is significant, it should be curated with a recognized scientific or educational repository.</p>	
<p>Impact CULT-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.</p>	<p><i>SCAG Mitigation Measures</i> See SMM CULT-1. <i>Project Level Mitigation Measures</i> See PMM CULT-1.</p>	<p>Significant and unavoidable</p>
<p>Impact CULT-3: Disturb human remains, including those interred outside of dedicated cemeteries.</p>	<p><i>SCAG Mitigation Measures</i> See SMM CULT-1 <i>Project Level Mitigation Measures</i> PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <p>a) In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.</p> <p>b) If any discovered remains are of Native American origin:</p> <ul style="list-style-type: none"> - Contact the County Coroner to contact the NAHC to designate a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> - If the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation within 48 hours after being notified by the commission, or the landowner or his representative rejects the recommendation of the MLD and the mediation by the NAHC fails to provide measures acceptable to the landowner, obtain a culturally affiliated Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance. 	
ENERGY		
Impact ENR-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.	No mitigation is required	Less than significant
Impact ENR-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	No mitigation is required	Less than significant
GEOLOGY AND SOILS		
Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; (ii) strong seismic ground shaking; (iii) seismic-related ground failure, including liquefaction; (iv) landslides.	No mitigation is required	Less than significant
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	<p><i>SCAG Mitigation Measure</i></p> <p>SMM-GEO-1: SCAG shall facilitate the minimization of substantial soil erosion or loss of topsoil through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts. Such efforts shall include web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as training series and sharing of associated online training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.</p> <p><i>Project Mitigation Measures</i></p> <p>PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following</p>	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems. b) Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMP's); and an inspection and monitoring program. c) Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation. d) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils. 	
<p>Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.</p>	<p>No mitigation is required</p>	<p>Less than significant</p>
<p>Impact GEO-4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.</p>	<p>No mitigation is required</p>	<p>Less than significant</p>
<p>Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.</p>	<p>No mitigation is required</p>	<p>Less than significant</p>
<p>Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p>	<p><i>SCAG Mitigation Measure</i> SMM-GEO-3: Impacts to paleontological resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as training series and sharing of associated online training materials. SCAG shall consult with resource agencies such as the National Park Service, United States Forest Service, and Bureau of Land Management to identify opportunities for early and effective consultation to identify unique paleontological resources and unique geological features to avoid such resources wherever practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Ensure compliance with the Paleontological Resources Preservation Act, the Federal Land Policy and Management Act, the Antiquities Act, Section 5097.5 of the Public Resources Code (PRC), adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible, by adhering to and incorporating the performance standards and practices from the 2010 Society for Vertebrate Paleontology (SVP) standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. b) Obtain review by a qualified paleontologist (e.g. who meets the SVP standards for a Principal Investigator or Project Paleontologist or the Bureau of Land Management (BLM) standards for a Principal Investigator), to determine if the project has the potential to require ground disturbance of parent material with potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature. The assessment should include museum records searches, a review of geologic mapping and the scientific literature, geotechnical studies (if available), and potentially a pedestrian survey, if units with paleontological potential are present at the surface. c) Avoid exposure or displacement of parent material with potential to yield unique paleontological resources. d) Where avoidance of parent material with the potential to yield unique paleontological resources is not feasible: <ul style="list-style-type: none"> 1) All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training prior to the commencement of excavation work to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered. 2) A qualified paleontologist prepares a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of unique paleontological resources encountered during construction. The PRMP should adhere to and incorporate the performance standards and practices from the 2010 SVP Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. If unique 	

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	<p>paleontological resources are encountered during construction, use a qualified paleontologist to oversee the implementation of the PRMP.</p> <p>3) Monitor ground disturbing activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontological monitor meeting the standards of the SVP or the BLM to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols.</p> <p>4) Identify where ground disturbance is proposed in a geologic unit having the potential for containing fossils and specify the need for a paleontological monitor to be present during ground disturbance in these areas.</p> <p>e) Avoid routes and project designs that would permanently alter unique geological features.</p> <p>f) Salvage and document adversely affected resources sufficient to support ongoing scientific research and education.</p> <p>g) Significant recovered fossils should be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility.</p> <p>h) Following the conclusion of the paleontological monitoring, the qualified paleontologist should prepare a report stating that the paleontological monitoring requirement has been fulfilled and summarize the results of any paleontological finds. The report should be submitted to the lead CEQA and the repository curating the collected artifacts, and should document the methods and results of all work completed under the PRMP, including treatment of paleontological materials, results of specimen processing, analysis, and research, and final curation arrangements.</p>	

GREENHOUSE GASES		
<p>Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM GHG-1: SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs], develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs, that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions from transportation sources.</p> <p>SMM GHG-2: SCAG shall encourage energy efficient design for buildings, through SCAG’s Sustainable Communities Program potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency.</p> <p>SMM GHG-3: SCAG shall continue working with partners including universities, utilities, regulating agencies, the private sector and NGO’s, and member agencies to support deployment of electric vehicle (EV) charging in the region. SCAG shall provide resources to member agencies and supply them with available information and data so that they can better take advantage of legislation and funding for EV charging.</p>	<p>Significant and unavoidable</p>

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	<p>SMM-GHG-4: SCAG shall continue to pursue partnerships with SCE, municipal utilities, locally operated electricity providers and CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities.</p> <p><i>Project Level Mitigation Measures:</i></p> <p>PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including: <ul style="list-style-type: none"> i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit. ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems. iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight. iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment. v. Use high-efficiency lighting and cooking devices. vi. Incorporate passive solar design. vii. Use high-reflectivity building materials and multiple glazing. viii. Prohibit gas-powered landscape maintenance equipment. ix. Install electric vehicle charging stations. x. Reduce wood burning stoves or fireplaces. xi. Provide bike lanes accessibility and parking at residential developments. b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines. c) Include off-site measures to mitigate a project's emissions. d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to: <ul style="list-style-type: none"> i. Use energy and fuel-efficient vehicles and equipment; ii. Deployment of zero- and/or near zero emission technologies; iii. Use lighting systems that are energy efficient, such as LED technology; iv. Use the minimum feasible amount of GHG-emitting construction materials; v. Use cement blended with the maximum feasible amount of flash or other materials 	

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	<p>that reduce GHG emissions from cement production;</p> <ul style="list-style-type: none"> vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse; vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy; viii. Incorporate design measures to reduce water consumption; ix. Use lighter-colored pavement where feasible; x. Recycle construction debris to maximum extent feasible; xi. Plant shade trees in or near construction projects where feasible; and xii. Solicit bids that include concepts listed above. <p>e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:</p> <ul style="list-style-type: none"> i. Promote transit-active transportation coordinated strategies; ii. Increase bicycle carrying capacity on transit and rail vehicles; iii. Improve or increase access to transit; iv. Increase access to common goods and services, such as groceries, schools, and day care; v. Incorporate affordable housing into the project; vi. Incorporate the neighborhood electric vehicle network; vii. Orient the project toward transit, bicycle and pedestrian facilities; viii. Improve pedestrian or bicycle networks, or transit service; ix. Provide traffic calming measures; x. Provide bicycle parking; xi. Limit or eliminate park supply; xii. Unbundle parking costs; xiii. Provide parking cash-out programs; xiv. Implement or provide access to commute reduction program; <p>f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;</p> <p>g) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and</p> <p>h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:</p> <ul style="list-style-type: none"> i. Provide car-sharing, bike sharing, and ride-sharing programs; 	

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	<ul style="list-style-type: none"> ii. Provide transit passes; iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services; iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle; v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms; vi. Provide employee transportation coordinators at employment sites; vii. Provide a guaranteed ride home service to users of non-auto modes. i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles; j) Land use siting and design measures that reduce GHG emissions, including: <ul style="list-style-type: none"> i. Developing on infill and brownfields sites; ii. Building compact and mixed-use developments near transit; iii. Retaining on-site mature trees and vegetation, and planting new canopy trees; iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse. 	
<p>Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.</p>	<p><i>SCAG Mitigation Measures</i> See SMM GHG -1, SMM GHG-2, SMM GHG-3, and SMM GHG-4. <i>Project Level Mitigation Measures</i> See PMM-GHG-1.</p>	<p>Significant and unavoidable</p>
<p>HAZARDS AND HAZARDOUS MATERIALS</p>		
<p>Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p>	<p><i>SCAG Mitigation Measures</i> SMM HAZ-1: SCAG shall work with the U.S. DOT, the Office of Environmental Service Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. Department of Transportation and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation. SMM HAZ-2: SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171-180. SMM HAZ-3: SCAG shall coordinate with the Office of Environmental Services to identify any transportation</p>	<p>Significant and unavoidable</p>

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	<p>infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future regional transportation plans (RTPs).</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM HAZ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the routine transport, use, or disposal of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ol style="list-style-type: none"> a) Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials. b) Specify Project requirements for interim storage and disposal of hazardous materials during construction and operation. Storage and disposal strategies must be consistent with applicable federal, state, and local statutes and regulations. Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the business plan for projects as applicable and appropriate. c) Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following: <ul style="list-style-type: none"> o The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids. o The location of such hazardous materials. o An emergency response plan including employee training information. o A plan that describes the way these materials are handled, transported and disposed. d) Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction. e) Avoid overtopping construction equipment fuel gas tanks. f) Properly contain and remove grease and oils during routine maintenance of construction equipment. g) Properly dispose of discarded containers of fuels and other chemicals. h) Prior to shipment remove the most volatile elements, including flammable natural gas liquids, as feasible. i) Identify and implement more stringent tank car safety standards. 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> j) Improve rail transportation route analysis, and modification of routes based on that analysis. k) Use the best available inspection equipment and protocols and implement positive train control. l) Reduce train car speeds to 40 miles per hour when passing through urbanized areas of any size. m) Limit storage of crude oil tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments. n) Notify in advance county and city emergency operations offices of all crude oil shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident. o) Report quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying crude oil identified. p) Fund training and outfitting emergency response crews that includes the cost of backfilling personnel while in training. q) Undertake annual emergency responses scenario/field based training including Emergency Operations Center Training activations with local emergency response agencies. 	
<p>Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.</p>	<p><i>SCAG Mitigation Measures</i> See SMM HAZ-1 through SMM HAZ-3.</p> <p><i>Project Level Mitigation Measures</i> See PMM HAZ-1.</p> <p>PMM HAZ-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce hazards related to the reasonably foreseeable upsets and accidents involving the release of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Removal of the most volatile elements, including flammable natural gas liquids, prior to shipment; b) More stringent tank car safety standards; c) Improved rail transportation route analysis, and modification of routes based on that analysis; d) Utilization of the best available inspection equipment and protocols, and implementation of positive train control; e) Reduced train car speeds to 40 miles per hour when passing through urbanized areas of any size; f) Limitations on storage of hazardous materials tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments; g) Advance notification to county and city emergency operations offices of all crude oil and hazardous materials shipments, including a contact number that can provide real-time 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>information in the event of an oil train derailment or accident;</p> <p>h) Quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying hazardous materials.</p>	
<p>Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school</p>	<p><i>SCAG Mitigation Measures</i> See SMM HAZ-1 through SMM HAZ-3.</p> <p><i>Project Level Mitigation Measures</i> See PMM HAZ-1 and PMM HAZ-2.</p> <p>PMM HAZ-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the release of hazardous materials within one-quarter mile of schools, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Where the construction and operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible. b) Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notifications of the anticipated schedule of transport of such materials. 	<p>Significant and unavoidable</p>
<p>Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.</p>	<p><i>SCAG Mitigation Measures</i> See SMM HAZ-1 through SMM HAZ-3.</p> <p><i>Project Level Mitigation Measures</i> PMM HAZ-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to projects that are located on a site which is included on the Cortese List, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) For any listed sites or sites that have the potential for residual hazardous materials as a result of historic land uses, complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects. b) Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. c) Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action. 	<p>Significant and unavoidable</p>

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	<ul style="list-style-type: none"> d) Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans. e) Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building. f) Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps. g) Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency. h) Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to, notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority. i) Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies. j) Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building. k) As needed and appropriate, prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site. 	

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	<ul style="list-style-type: none"> l) Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an acceptable level and to prevent any further environmental contamination as a result of construction. m) If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations. n) Where projects include the demolitions or modification of buildings constructed prior to 1978, complete an assessment for the potential presence or lack thereof of ACM, lead based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law. o) Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001-36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials. 	
<p>Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area</p>	<p><i>SCAG Mitigation Measures</i> See SMM NOISE-1.</p> <p>SMM HAZ-5: SCAG shall continue to collaborate with key stakeholders on regional aviation planning issues through the Aviation Technical Advisory Committee (ATAC). The ATAC is a partnership between the airports, transportation agencies and commissions, experts, and other community members.</p> <p><i>Project Level Mitigation Measures</i> See PMM NOISE-1.</p>	<p>Significant and unavoidable</p>
<p>Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan</p>	<p><i>SCAG Mitigation Measures</i> See SMM HAZ-1 through SMM HAZ-5 and SMM TRA-5.</p> <p><i>Project Level Mitigation Measures</i> See PMM HAZ-1 through PMM HAZ-4 and PMM TRA-5.</p> <p>PMM HAZ-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such</p>	<p>Significant and unavoidable</p>

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	measures may include the following or other comparable measures identified by the Lead Agency: <ul style="list-style-type: none"> a) Continue to coordinate locally and regionally based on ongoing review and integration of projected transportation and circulation conditions. b) Develop new methods of conveying projected and real time information to citizens using emerging electronic communication tools including social media and cellular networks; c) Continue to evaluate lifeline routes for movement of emergency supplies and evacuation. 	
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	This impact is addressed under Section 3.20, Wildfire, Impact WF-2. See below.	
HYDROLOGY AND WATER QUALITY		
Impact HYD-1: Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	<p><i>SCAG Mitigation Measure</i></p> <p>SMM HYD-1: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG’s ongoing regional planning efforts.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM HYD-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction. b) Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable. c) Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control. d) Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures. e) Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings. f) Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse: g) Where feasible, restore or expand riparian areas such that there is no net loss of impervious 	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>surface as a result of the project.</p> <ul style="list-style-type: none"> h) Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities. i) Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase. j) Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and drainage of roadway runoff. k) Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process. l) Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels. m) Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible. 	
<p>Impact HYD-2: Potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>SMM HYD-2: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM HYD-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>a) Avoid designs that require continual dewatering where feasible. For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes adverse impacts on groundwater for the life of the project, Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code.</p> <p>b) Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize new impervious surfaces, including the use of in-lieu fees and off-site mitigation.</p> <p>c) Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface.</p> <p>d) Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate.</p>	
<p>Impact HYD-3a: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.</p>	<p><i>SCAG Mitigation Measures</i> See SMM HYD-1 and SMM HYD-2. SMM HYD-3: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions to encourage regional-scale planning for maintaining and/or improving existing drainage patterns. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region. <i>Project Level Mitigation Measures</i> See PMM HYD-1.</p>	<p>Significant and unavoidable</p>
<p>Impact HYD-3b: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of flooding on- or off-site.</p>	<p><i>SCAG Mitigation Measures</i> See SMM HYD-1 through SMM HYD-3. <i>Project Level Mitigation Measures</i> See PMM HYD-1 and PMM HYD-2.</p>	<p>Significant and unavoidable</p>
<p>Impact HYD-3c: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.</p>	<p><i>SCAG Mitigation Measures</i> See SMM HYD-1 through SMM HYD-3. <i>Project Level Mitigation Measures</i> See PMM HYD-1 and PMM HYD-2.</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM-HYD-4: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG’s ongoing regional planning efforts. These include but are not limited to web-based data distribution planning tools and sustainability programs in conjunction with local governments. Such services would potentially consist of an inventory of areas located in or near a 100-year flood hazard zone or hazard areas that would potentially be affected by a failure of a levee or dam; or inundation by seiche, tsunami, or mudflow.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM-HYD-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change. 	<p>Significant and unavoidable</p>
<p>Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>See SMM HYD-2.</p> <p><i>Project Level Mitigation Measure</i></p> <p>See PMM HYD-2.</p>	<p>Significant and unavoidable</p>
<p>LAND USE</p>		
<p>Impact LU-1: Potential for the Plan to physically divide an established community</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM LU-1: SCAG shall coordinate with local County Transportation Commissions, Caltrans and other implementing agencies when siting new facilities in residential areas to facilitate minimizing future impacts of transportation projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG’s ongoing regional planning efforts to promote best planning practices.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM LU-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Facilitate good design for land use projects that build upon and improve existing circulation patterns 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> b) Encourage implementing agencies to orient transportation projects to minimize impacts on existing communities by: <ul style="list-style-type: none"> - Selecting alignments within or adjacent to existing public rights of way. - Design sections above or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project. - Wherever feasible incorporate direct crossings, overcrossings, or under crossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles). c) Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to: <ul style="list-style-type: none"> - Alignment shifts to minimize the area affected. - Reduction of the proposed right-of-way take to minimize the overall area of impact. - Provisions for bicycle, pedestrian, and vehicle access across improved roadways. 	
<p>Impact LU-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM LU-2: SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall provide comment letters on regionally significant projects to recommend additional resources to help the lead agency support or develop a projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: https://maps.scag.ca.gov/IGR/. For more information on SCAG's IGR Program, please visit: http://www.scag.ca.gov/programs/Pages/IGR.aspx.</p> <p>SMM LU-3: SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced.</p> <p>SMM LU-4: SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research.</p> <p>SMM LU-5: SCAG shall provide technical assistance and regional leadership to encourage implementation of the Plan goals and strategies that integrate growth and land use planning with the existing and planned transportation network.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM LU-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) When an inconsistency with the adopted general plan policy or land use regulation (adopted for the purpose of avoiding or mitigating an impact) is identified modify the transportation or 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	land use project to eliminate the conflict; or, determine if the environmental, social, economic, and engineering benefits of the project warrant an amendment to the general plan or land use regulation.	
MINERAL RESOURCES		
<p>Impact MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM MIN-1: SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey, SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM MIN-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce the use of mineral resources that could be of value to the region, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects. b) Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures such as: <ul style="list-style-type: none"> 1) Recycle and reuse building materials resulting from demolition, particularly aggregate resources, to the maximum extent practicable. 2) Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site. 3) Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations. 4) Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2 areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources. 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact MIN-2 Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.</p>	<p><i>SCAG Mitigation Measure</i> See SMM MIN-1. <i>Project Level Mitigation Measure</i> See PMM-MIN-1.</p>	<p>Significant and unavoidable</p>
NOISE		
<p>Impact NOISE-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p>	<p><i>SCAG Mitigation Measures</i> SMM-NOISE-1: SCAG shall coordinate with CTCs and member agencies as part of SCAG's outreach and technical assistance to local governments to encourage transportation projects and projects involving residential and commercial land uses to mitigate noise and vibration or be developed in areas that are normally acceptable or conditionally acceptable, consistent with applicable guidelines (i.e, OPR, Caltrans, etc.) <i>Project Level Mitigation Measures</i> PMM NOISE-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ol style="list-style-type: none"> a) Install temporary noise barriers during construction. b) Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses. c) Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance d) Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem. e) Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance. f) Designate an on-site construction complaint and enforcement manager for the project. g) Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded. h) Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.</p> <ul style="list-style-type: none"> i) Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors. j) Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction. k) Using rubberized asphalt or “quiet pavement” to reduce road noise for new roadway segments, roadways in which widening or other modifications require re-pavement, or normal reconstruction of roadways where re-pavement is planned l) Projects that require pile driving or other construction noise above 90 dBA in proximity to sensitive receptors, should reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA; a set of site-specific noise attenuation measures should be completed under the supervision of a qualified acoustical consultant. m) Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses; n) Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance. o) Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction. p) Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction. q) Use of portable barriers in the vicinity of sensitive receptors during construction. r) Implement noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings (for instance by the use of sound blankets), and implement if such measures are feasible and would noticeably reduce noise impacts. s) Monitor the effectiveness of noise attenuation measures by taking noise measurements. t) Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities. 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> u) Construct sound reducing barriers between noise sources and noise-sensitive land uses. v) Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction. w) Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures. x) Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible. 	
<p>Impact NOISE-2: Generation of excessive groundborne vibration or groundborne noise levels.</p>	<p><i>SCAG Mitigation Measure</i> See SMM-NOISE-1</p> <p><i>Project Level Mitigation Measures</i> See PMM-NOISE-1.</p> <p>PMM-NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations. b) For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds. c) For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain. d) Restrict construction activities to permitted hours in accordance with local jurisdiction regulation. e) Properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silences, wraps). f) Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors. 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact NOISE-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.</p>	<p><i>SCAG Mitigation Measures</i> See SMM NOISE-1. <i>Project Level Mitigation Measures</i> See PMM NOISE-1.</p>	<p>Significant and unavoidable</p>
<p>POPULATION AND HOUSING</p>		
<p>Impact POP-1: Induce substantial unplanned population growth to areas of the region either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., by extending roads and other infrastructure)</p>	<p><i>SCAG Mitigation Measures</i> SMM-POP-1: SCAG shall promote the Sustainability Program which will provide technical assistance to local jurisdictions that support local planning and implementation of the Connect SoCal Plan. The program recognizes sustainable solutions to local growth challenges and will result in local plans that promote sustainability through the integration of transportation and land use. For more information please visit: http://sustain.scag.ca.gov/Documents/Sustainable%20Communities%20Program%20Guidelines.pdf. SMM-POP-2: SCAG shall provide technical assistance to local governments, transit agencies and developers within the region to build housing capacity to compete in the statewide Affordable Housing Sustainable Communities (AHSC) grants program. The AHSC program is one of the few state funding opportunities to address housing shortages within the state. For more information please visit: http://ahsc.scag.ca.gov/Pages/Home.aspx. SMM-POP-3: SCAG shall host summits that addresses the housing crisis and provides solutions to build more housing. Examples include the 2016 Housing Summit (http://www.scag.ca.gov/SiteAssets/HousingSummit/index.html) and the Eighth Annual Economic Summit (https://www.scag.ca.gov/calendar/Pages/8thEconomicSummit.aspx). SMM-POP-4: SCAG shall continue to produce the biennial Local Profile reports for all member jurisdictions in the SCAG region for the purpose of data and information sharing. The Local Profiles reports provide a variety of demographic, economic, education, housing, and transportation information that local jurisdictions can utilize like project and program planning. For more information about the most recently release 2019 Local Profiles, please visit: http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx.</p>	<p>Significant and unavoidable</p>
<p>Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.</p>	<p><i>SCAG Level Mitigation Measure</i> See SMM-POP-4. SMM-POP5: SCAG shall assist cities to identify funding and financing opportunities and potential partnerships for public infrastructure improvements for transit-oriented development and other smart growth projects. <i>Project Level Mitigation Measures</i> PMM-POP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce the displacement of existing housing, as applicable and feasible. Such measures may include the</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people. b) Prioritize the use existing ROWs, wherever feasible. c) Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction. d) Review capacities of available urban infrastructure and augment capacities as needed to accommodate demand in locations where growth is desirable to the local lead Agency and encouraged by the SCS (primarily TPAs, where applicable). e) When General Plans and other local land use regulations are amended or updated, use the most recent growth projections and RHNA allocation plan. 	
FIRE SERVICES		
<p>Impact PSF-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.</p>	<p><i>SCAG Mitigation Measures</i> See SMM PSP-1 through SMM PSP-4.</p> <p>SMM PSF-1: SCAG shall assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period:</p> <ul style="list-style-type: none"> • Provide a policy forum to help develop regional consensus and education on security policies and emergency responses. • Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters. • Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. An example includes SCAG's participation in the development of the Southern California Catastrophic Earthquake Preparedness Plan. <p>SMM PSF-2: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments.</p> <p><i>Project Mitigation Measures</i> See PMM-PSP-1.</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
POLICE SERVICES		
<p>Impact PSP-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.</p>	<p><i>SCAG Mitigation Measures</i> See SMM PSF-1.</p> <p>SMM PSP-1: SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG’s ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.</p> <p>SMM PSP-2: SCAG shall help to enhance the region’s ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.</p> <p>SMM PSP-3: SCAG shall help to enhance the region’s ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:</p> <ul style="list-style-type: none"> • SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies. • SCAG shall encourage all SCAG elected officials are educated in NIMS. • SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort. <p>SMM PSP-4: SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery.</p> <p><i>Project Mitigation Measures</i></p> <p>PMM PSP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new emergency response facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ol style="list-style-type: none"> a) Coordinate with emergency response agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for emergency response services and that any required additional construction of buildings is incorporated in to the project description. b) Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements, as appropriate and applicable, to mitigate identified CEQA impacts. c) Project sponsors can and should develop traffic control plans for individual projects. Traffic control plans should include information on lane closures and the anticipated flow of traffic during the construction period. The basic objective of each traffic control plan (TCP) is to permit the contractor to work within the public right of way efficiently and effectively while 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	maintaining a safe, uniform flow of traffic. The construction work and the public traveling through the work zone in vehicles, bicycles or as pedestrians must be given equal consideration when developing a traffic control plan.	
SCHOOLS		
<p>Impact PSS-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered educational facilities, need for new or physically altered educational facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>SMM PSS-1: SCAG shall facilitate minimizing future impacts to school services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote school planning efforts.</p> <p><i>Project Mitigation Measure</i></p> <p>PMM PSS-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new or physically altered school facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <p>a) Where construction or expansion of school facilities is required to meet public school service ratios, require school district fees, as applicable.</p>	Significant and unavoidable
LIBRARY SERVICES		
<p>Impact PSL-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM PSL-1 SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.</p> <p><i>Project Mitigation Measure</i></p> <p>PMM PSL-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of construction of new or altered library facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <p>a) Where construction or expansion of library facilities is required to meet public library service ratios, require library fees, as appropriate and applicable, to mitigate identified CEQA impacts.</p>	Significant and unavoidable
RECREATION		
<p>Impact REC-1: Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>See SMM USWS-1.</p> <p>SMM REC-1: SCAG shall continue the commitment to analyze public health outcomes as part of the Regional Transportation Plan/Sustainable Communities Strategy (Plan). As part of the public health analysis for the Plan, SCAG shall continue to analyze resident access to parks and recreational facilities from</p>	Significant and unavoidable

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>a county level to help local jurisdictions to improve resident access to parks. SCAG shall communicate the impacts of the Plan through its Public Health Working group, and continue to support policy changes at the city and county level through educational programs.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM REC-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on the use of existing neighborhood and regional parks or other recreational facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies. b) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as: <ul style="list-style-type: none"> i. Increasing the accessibility to natural areas for outdoor recreation ii. Utilizing “green” development techniques iii. Promoting water-efficient land use and development iv. Encouraging multiple uses, such as the joint use of schools v. Including trail systems and trail segments in General Plan recreation standards 	
<p>Impact REC-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives.</p> <p>Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.</p>	<p><i>SCAG Mitigation Measure</i></p> <p>See SMM REC-1.</p> <p><i>Project Level Mitigation Measures</i></p> <p>See PMM REC-1, PMM AQ-2, and PMM NOISE-1.</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
TRANSPORTATION, TRAFFIC, AND SAFETY		
<p>Impact TRA-1: Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.</p>	<p>No mitigation is required</p>	<p>Less than significant</p>
<p>Impact TRA-2: Conflict or be inconsistent with <i>CEQA Guidelines</i> section 15064.3(b).</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners.</p> <p>SMM TRA-2: SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.</p> <p>SMM TRA-3: SCAG shall initiate and facilitate an SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:</p> <ul style="list-style-type: none"> • Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs. • Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative. • Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements. • Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program. • Improve the dissemination of transportation project VMT mitigation options. • Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies. • Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state <p>SMM TRA-4: SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.</p> <p>SMM TRA-5: SCAG shall develop a vanpool program for SCAG employees' commute trips.</p>	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>SMM-TRA-6: SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Transportation demand management (TDM) strategies should be incorporated into individual land use and transportation projects and plans, as part of the planning process. Local agencies should incorporate strategies identified in the Federal Highway Administration’s publication: <i>Integrating Demand Management into the Transportation Planning Process: A Desk Reference</i> (August 2012) into the planning process (FHWA 2012). For example, the following strategies may be included to encourage use of transit and non-motorized modes of transportation and reduce vehicle miles traveled on the region’s roadways: <ul style="list-style-type: none"> – include TDM mitigation requirements for new developments; – incorporate supporting infrastructure for non-motorized modes, such as, bike lanes, secure bike parking, sidewalks, and crosswalks; – provide incentives to use alternative modes and reduce driving, such as, universal transit passes, road and parking pricing; – implement parking management programs, such as parking cash-out, priority parking for carpools and vanpools; – develop TDM-specific performance measures to evaluate project-specific and system-wide performance; – incorporate TDM performance measures in the decision-making process for identifying transportation investments; – implement data collection programs for TDM to determine the effectiveness of certain strategies and to measure success over time; and – set aside funding for TDM initiatives. • The increase in per capita VMT on facilities experiencing LOS F represents a significant impact compared to existing conditions. To assess whether implementation of these specific mitigation strategies would result in measurable traffic congestion reductions, implementing actions may need to be further refined within the overall parameters of the proposed Plan and matched to local conditions in any subsequent project-level environmental analysis. 	
<p>Impact TRA-3: Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p>	<p>No mitigation is required</p>	<p>Less than significant</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
<p>Impact TR-4: Result in inadequate emergency access.</p> <p>Impact WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM TRA-7: SCAG shall, in cooperation with local and state agencies, identify critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.</p> <p>SMM TRA-8: SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:</p> <ul style="list-style-type: none"> • SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities. • SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format. • SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function. <p><i>Project Level Mitigation Measures</i></p> <p>PMM TRA-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may substantially impair implementation of an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements: <ul style="list-style-type: none"> – Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow. – Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. – Scheduling of truck trips outside of peak morning and evening commute hours. – Limiting of lane closures during peak hours to the extent possible. – Usage of haul routes minimizing truck traffic on local roadways to the extent possible. – Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction. – Installation of traffic control devices as specified in the California Department of 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.</p> <ul style="list-style-type: none"> - Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures. - Storage of construction materials only in designated areas. - Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary. - Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. - Enhance emergency preparedness awareness among public agencies and with the public at large. 	
TRIBAL CULTURAL RESOURCES		
<p>Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 that is:</p> <ul style="list-style-type: none"> a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. 	<p><i>SCAG Mitigation Measure</i></p> <p>SMM TCR-1: Impacts to tribal cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with the Native American Heritage Commission, as well as Native American tribes, to identify opportunities for early and effective consultation to identify tribal cultural resources to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.</p> <p><i>Project Level Mitigation Measures</i></p> <p>See PMM CULT-1.</p> <p>PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria b) Treating the resource with culturally appropriate dignity taking into account the tribal cultural 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>values and meaning of the resource, including, but not limited to, the following: protecting the cultural character and integrity of the resource; protecting the traditional use of the resource; and protecting the confidentiality of the resource;</p> <p>c) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; and protecting the resource.</p>	
SOLID WASTE		
<p>Impact USSW-1: Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM USSW-1: During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.</p>	<p>Significant and unavoidable</p>
<p>Impact USSW-2: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.</p>	<p>SMM USSW-2: SCAG shall coordinate with waste management agencies, and the appropriate local and regional jurisdictions, measures to facilitate and encourage diversion of solid waste such as recycling and composting programs.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM USSW-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <p>Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:</p> <ul style="list-style-type: none"> a) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities. b) Inclusion of a waste management plan that promotes maximum C&D diversion. c) Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.). d) Reuse of existing structure and shell in renovation projects. e) Development of indoor recycling program and space. f) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities. g) Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the 	

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and Connect SoCal policies can and should be required.</p> <ul style="list-style-type: none"> h) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target. i) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices. j) Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities. k) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts. l) Integrate reuse and recycling into residential industrial, institutional and commercial projects. m) Provide education and publicity about reducing waste and available recycling services. n) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services. 	

WASTEWATER		
<p>Impact USWW-1: Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM USWW-1: SCAG shall work with local jurisdictions and wastewater agencies to encourage regional-scale planning for improved wastewater and stormwater management. Future impacts to wastewater and stormwater facilities shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.</p> <p><i>Project Level Mitigation Measures</i></p> <p>See PMM-HYD-1.</p> <p>PMM USWW-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on utilities and service systems, particularly for construction of wastewater facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> • During the design and CEQA review of individual future projects, implementing agencies and projects sponsors shall determine whether sufficient wastewater capacity exists for the 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>proposed projects. There CEQA determinations must ensure that the proposed development can be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the appropriate public service or utility shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project-level review as necessary to provide CEQA clearance for new facilities.</p>	
<p>Impact USWW-2: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.</p>	<p><i>SCAG Mitigation Measures</i> See SMM UWW-1, SMM HYD-1 through SMM HYD-3. <i>Project Level Mitigation Measures</i> See PMM UWW-1.</p>	<p>Significant and unavoidable</p>
WATER SUPPLY		
<p>Impact USWS-1: Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.</p>	<p><i>SCAG Mitigation Measure</i> SMM USWS-1: SCAG shall coordinate with local agencies as part of SCAG's Sustainability Program regarding the implementation of Urban Greening, Greenbelts and Community Separator land use strategies. Primary features of land use strategies address the following:</p> <ul style="list-style-type: none"> • Increased trail and greenway connectivity; • Improved water quality, groundwater recharge and watershed health; • Reduce urban runoff; • Expand the urban forest; • Provision of wildlife habitat and increased biodiversity; • Expand recreation opportunities and beautification; • Preserving agrarian economies; • Restore severed wildlife corridors. <p><i>Project Level Mitigation Measures</i> PMM USSW-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ol style="list-style-type: none"> a) Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives. b) Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and 	<p>Significant and unavoidable</p>

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<p>hillside landscaping can and should be implemented where feasible.</p> <p>c) Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.</p> <p>d) For projects located in an area with existing reclaimed water conveyance infrastructure and excess reclaimed water capacity, use reclaimed water for non-potable uses, especially landscape irrigation. For projects in a location planned for future reclaimed water service, projects should install dual plumbing systems in anticipation of future use. Large developments could treat wastewater onsite to tertiary standards and use it for non-potable uses onsite.</p>	
<p>Impact USWS-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.</p>	<p><i>SCAG Mitigation Measure</i> See SMM USSW-1. <i>Project Level Mitigation Measures</i> See PMM-USWS-1.</p>	<p>Significant and unavoidable</p>
WILDFIRE		
<p>Impact WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p>	<p><i>SCAG Mitigation Measures</i></p> <p>SMM WF-1: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best practices for safe land management) with county and city planning departments. Furthermore, SCAG shall examine wildfire risk management strategies in areas where at-risk critical electrical infrastructure is located based on CPUC and CAL FIRE maps.</p> <p>SMM WF-2: SCAG, in partnership with technical experts and stakeholders shall launch or continue existing initiatives to help local cities and counties to protect Southern California communities and economies from the disruption of wildfire occurrences. Initiatives could include but not be limited to seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.</p> <p>SMM WF-3: SCAG shall develop a regional resilience program and identify specific strategies to reduce vulnerabilities from natural disasters related to land based or atmospheric hazards, climate change, wildfire and other extreme weather events.</p> <p><i>Project Level Mitigation Measures</i></p> <p>PMM WF-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <p>a) Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition.</p>	<p>Significant and unavoidable</p>
<p>Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.</p>		

Significance Threshold and Project Impacts	Mitigation Measures	Residual Impact
	<ul style="list-style-type: none"> b) Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place. c) Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary. d) Improve, and educate regarding, local emergency communications and notifications with residents and businesses. e) Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures. f) Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place 	
<p>Impact WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment.</p>	<p><i>SCAG Mitigation Measures</i> See SMM-WF-1, SMM WF-2, SMM AG-4, and SMM BIO-3.</p> <p><i>Project Mitigation Measures</i> See PMM HAZ-4.</p> <p>PMM WF-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the <i>State CEQA Guidelines</i>, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:</p> <ul style="list-style-type: none"> a) New development or infrastructure activity within very high hazard severity zones or SRAs shall be required to: <ul style="list-style-type: none"> 1) Submit a fire protection plan including the designation of fire watch staff; 2) Maintain water and other fire suppression equipment designated solely for firefighting on site for any construction and maintenance activities; 3) Locate construction and maintenance equipment in designated "safe areas" such that they do not discharge combustible materials; and 4) Designate trained fire watch staff during project construction to reduce risk of fire hazards. 	<p>Significant and unavoidable</p>
<p>Impact WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes.</p>	<p><i>SCAG Mitigation Measures</i> See SMM-WF-1, SMM WF-2, SMM HYD-3, SMM GEO-1 and SMM GEO-2.</p> <p><i>Project Level Mitigation Measures</i> See PMM WF-1, PMM WF-2, PMM HYD-1, and PMM HAZ-4.</p>	<p>Significant and unavoidable</p>

1.0 INTRODUCTION

The Southern California Association of Governments (SCAG) prepared this Program Environmental Impact Report (PEIR), pursuant to the California Environmental Quality Act (CEQA), for the proposed Connect SoCal (“Plan”).

SCAG’s jurisdiction comprises a six-county region that includes the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, as well as 191 cities. SCAG is the Metropolitan Planning Organization (MPO) for this region, designated pursuant to Title 23, United States Code (USC) 134(d)(1), and has the primary responsibility, through its Regional Council, for consideration of Connect SoCal for approval, and thus serves as the Lead Agency under CEQA. SCAG published a Notice of Preparation (NOP) for this PEIR, pursuant to Section 21080.4 and *CEQA Guidelines* Section 15082 and 15375 on January 23, 2019.¹ Based on the analysis undertaken in the PEIR for the 2016-2040 Regional Transportation Plan and Sustainable Communities Strategies (2016 RTP/SCS),² SCAG determined that it is appropriate to prepare a PEIR for Connect SoCal.

The Plan is a long-range regional transportation plan that provides a vision for regional transportation investments, integrated with land use strategies, over a 20-year period. The Plan includes a land use and transportation strategy element that is shaped by the vision, goals, guiding policies, and performance measures and by the changes that the region has been facing since the adoption of the 2016 RTP/SCS. Other major components of Connect SoCal include: a list of transportation projects; a description of programs and public participation process; a description of regional growth trends that identifies future needs for travel and goods movement; a financial plan that identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region’s surface transportation system through the forecast horizon year of 2045; and a strategic plan that provides a vision for regional improvements beyond committed, available, or reasonably available funding sources. As part of the Draft Plan, SCAG has utilized a bottom-up local input and envisioning process to form the basis for the policy growth forecast (PGF). Following the guiding principles approved by SCAG’s Community, Economic, and Human Development Committee, the PGF was developed to serve as the foundation for the region’s policy growth scenario and land use distribution patterns, which are incorporated as part of the SCS.

¹ Southern California Association of Governments. Notice of Preparation of a Program Environmental Impact for the Connect SoCal Plan. Available at: <https://www.connectsocial.org/Documents/PEIR/NOP-PEIR-ConnectSoCal.pdf>

² Southern California Association of Governments. January 23, 2019. Certified Connect SoCal Plan PEIR. Available at: <http://scagrtpscs.net/Pages/Draft2016PEIR.aspx>

Although not required to do so, local jurisdictions are encouraged by SCAG to consider the proposed actions and strategies provided in Chapter 4, Sustainable Communities Strategy, of the Plan including strategies addressing land use, the transportation network, Transportation Demand Management (TDM), Transportation Systems Management (TSM) and clean vehicle technology. More information about the Plan is set forth in **Chapter 2.0, Project Description**, of this PEIR.

This PEIR fulfills the requirements of CEQA by providing a region-wide assessment of the potential significant environmental effects of implementing the projects, strategies, policies, and programs included in the Plan. As specified in Section §15168 of the *State CEQA Guidelines*, a PEIR “may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts of the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.” A PEIR provides a regional consideration of cumulative effects, and includes land use policy alternatives and program-wide mitigation measures that are capable of avoiding, reducing, and compensating for the potentially significant impacts of the Plan.

This PEIR provides a first-tier, programmatic environmental analysis, for a long-range, regional-scale plan document that will support local agencies in the evaluation of subsequent projects (including planning projects, transportation projects and development projects), and facilitate avoidance, reduction, and minimization of direct and indirect impacts, growth-inducing impacts, and cumulative environmental impacts. That is, although individual transportation projects are primarily (conceptually) identified in the Plan, this PEIR analyzes potential environmental impacts of both transportation projects and land use development from a regional perspective and is programmatic in nature.

Lead agencies for individual projects are responsible for determining the appropriate level of environmental review for subsequent project-level evaluation of individual projects. Consistent with the provisions of Section §15050(a) of the *State CEQA Guidelines*, the determination of the appropriate second-tier level of environmental review will be determined by the lead agency with primary discretion and decision-making authority. Where a project involves only a federal action, there will be a federal lead agency under the National Environmental Policy Act (NEPA); where there is both a federal and state/local agency action there may be individual review under NEPA and CEQA or joint federal and state/local review.

Project- and site-specific planning and implementation undertaken by each implementing agency/project proponent will depend on a number of issues, including: policies, programs, and projects adopted at the

local level; restrictions on federal, state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of projects.

1.1 SCAG REGION AND AUTHORITY

SCAG is one of 18 MPOs in the State of California and is comprised of the following counties: Los Angeles, Riverside, San Bernardino, Orange, Imperial and Ventura. To the north of the SCAG region are the counties of Kern and Inyo; to the east are the States of Nevada and Arizona; to the south is the County of San Diego as well as the U.S.-Mexico border; and to the west is the Pacific Ocean. The SCAG region also consists of 15 subregional entities that have been recognized by the Regional Council, SCAG's governing body, as partners in the regional policy planning process. There are 16 federally recognized tribal sovereign nations located within the SCAG region.

The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 19 million people, or 49 percent of California's population, representing the largest and most diverse region in the country. The region is home to the two largest container ports in the Western Hemisphere (Los Angeles and Long Beach), and the world's fifth busiest airport system (Los Angeles World Airports).

In addition to the federal designation as an MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements include the development of the Plan; the Federal Transportation Improvement Program (FTIP); the annual Overall Work Program; and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Needs Assessment (RHNA); and intergovernmental review of regionally significant projects. SCAG is just one part of a large body of governments and public organizations that collectively plan, construct, operate and maintain the region's transportation system. SCAG's work helps facilitate implementation, but the agency does not directly implement or construct projects.

The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and

air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints standing or ad-hoc subcommittees to study specific programs or issues.

1.1.1 Regional Cooperation and Subregions

SCAG places great importance on local input in the regional planning process and, therefore, seeks feedback from local elected officials and their staff through the subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy.

1.1.2 Regional Transportation Plan / Sustainable Communities Strategy

Regional Transportation Plan and Federal Transportation Improvement Plan

As a metropolitan planning organization – the largest in the nation – SCAG is responsible for developing long-range transportation plans and sustainability strategies for the region. The centerpiece of that planning work is the Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) that contains both the federally required RTP and the state-required SCS (discussed below). The 2020–2045 RTP/SCS is referred to as Connect SoCal.

In accordance with federal and state transportation planning laws, SCAG is required to adopt and update a long-range RTP every four years. The RTP is used to guide the development of the Federal Transportation Improvement Plan (FTIP) as well as other transportation programming documents and plans. The RTP outlines the region's goals and policies for meeting current and future mobility needs,

providing a foundation for transportation decisions by local, regional, and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. The RTP must include, among other things: the identification of transportation facilities such as major roadways, transit, intermodal facilities and connectors that function as an integrated metropolitan system over at least a 20 year forecast period; a financial plan demonstrating how the RTP can be implemented with “reasonably available” resources and additional financial approaches; strategies to improve existing facilities and relieve vehicular congestion and maximize the safety and mobility of people and goods; and environmental mitigation activities.

Transportation investments in the SCAG region that receive funding for which federal approval is required must be consistent with the Plan and must be included in SCAG’s FTIP when funded. The FTIP covers six years and is updated biennially on an even-year cycle. It represents the immediate, near-term commitments of the Plan. SCAG does not implement individual projects in the Plan, as these projects will be implemented by local and state jurisdictions, and other agencies. In order to continue receiving funding for which federal approval is required, the SCAG region must have an RTP with an approved transportation conformity determination in accordance with federal air quality requirements, approved by the federal government by June 2020. **Section 2.0, Project Description**, provides additional detail on Connect SoCal.

Moving Ahead for Progress in the 21st Century Act

With the passage of the ‘Moving Ahead for Progress in the 21st Century’ (MAP-21) federal transportation authorization legislation in 2012, transportation system performance planning and monitoring also became a federal mandate.³ This commitment to a national performance management and reporting system was further solidified with the passage of the subsequent federal transportation authorization package (the ‘FAST Act’) in 2015. Starting with the 1998 Regional Transportation Plan, SCAG has been using quantitative performance measures to evaluate how well the RTP may achieve the regional goals established in the Plan.

Further, MAP-21 continues to require, as under prior planning law, that “a long-range transportation plan shall include a discussion of the types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan” (23 USC § 134(i)(2)(B)).⁴ Consultation and

³ U.S. Department of Transportation. *MAP-21 – Moving Ahead for Progress in the 21st Century*. Available online at: <https://www.fhwa.dot.gov/map21/>, accessed August 23, 2019.

⁴ Federal Highway Administration. *Title 23, U.S.C.* Available online at: <https://www.fhwa.dot.gov/map21/docs/title23usc.pdf>, accessed August 23, 2019.

public outreach activities have been undertaken in conjunction with the Plan and PEIR development processes. SCAG is coordinating efforts to comply with MAP-21 planning requirements with efforts undertaken through the CEQA outreach process. As such, the Plan has placed emphasis on these planning requirements, including those that prescribe coordinated planning and consideration of environmental resources.

Section 65080 of the California Government Code

SCAG is also required to prepare an RTP pursuant to Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each transportation planning agency in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC under Government Code Section 14522 prepared RTP Guidelines. The adopted guidelines include a requirement for program level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. In addition, the initial years of the plan must be consistent with the FTIP.⁵

Sustainable Communities and Climate Protection Act of 2008

State planning law further requires, pursuant to the Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375 (Chapter 728, Statutes of 2008) that an RTP include an SCS component to reduce greenhouse gas (GHG) emissions from passenger vehicles (automobiles and light-duty trucks). SB 375 is part of California's overall strategy to reach GHG emissions reduction goals required by Assembly Bill (AB) 32, by promoting integrated transportation planning with the goal of creating more sustainable communities.⁶

Pursuant to SB 375, the SCS prepared by SCAG is required to meet reduction targets for greenhouse gas (GHG) emissions by 8 percent per capita by 2020 and 19 percent per capita by 2035 compared to 2005, as set by the California Air Resources Board (CARB). The most recent targets were established by CARB in October 2018.⁷

According to Section 65080(b)(2)(B) of the California Government Code, the SCS must:⁸

⁵ California Legislative Information. *Chapter 2.5 Transportation Planning and Programming [65080-65086.5]*.

⁶ California Legislative Information. 2008. *Senate Bill No. 375, Chapter 728*.

⁷ California Air Resources Board. Available online at: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>

⁸ California Legislative Information. *Chapter 2.5 Transportation Planning and Programming [65080-65086.5]*.

- Identify existing land use.
- Identify areas to accommodate long-term housing needs.
- Identify areas to accommodate an eight-year projection of regional housing needs.
- Identify transportation needs and the planned transportation network.
- Consider resource areas and farmland.
- Consider state housing goals and objectives.
- Set forth a forecasted growth and development pattern.
- Comply with federal law for developing an RTP.

The Plan outlines SCAG's plan for attaining the GHG emissions reductions targets set forth by CARB, by integrating the transportation network and land use strategies with forecasted land use pattern that responds to projected growth, housing needs and changing demographics, and transportation demands.

In addition, SCAG is required to submit to CARB the SCS (along with associated required modeling), developed as part of the Plan for the purpose of determining whether the GHG emissions reduction targets have been met. Furthermore, the Act specifically states that the SCS developed as part of the RTP cannot dictate local General Plan policies. Rather, the Act is intended to provide a regional policy foundation that local government may build upon if they so choose and generally includes the quantitative growth projections from each city and county in the region going forward. Qualifying projects that meet criteria established by SB 375 and are consistent with the SCS are eligible for streamlined environmental review under CEQA.⁹

SB 32 (Statutes of 2016, Chapter 249), extended the state's GHG reduction target under AB 32, requiring achievement of a 40 percent reduction from 1990 levels of GHG emissions by 2030, as initially directed by Executive Order B-30-15. In California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), CARB, the state agency tasked with furthering the state toward its long-term GHG reduction targets, provides the framework for the state to achieve its 2030 target as mandated by SB 32. These statewide efforts extend to achieve the state's target of achieving an 80 percent reduction from 1990 levels by 2050 as established by Executive Order S-3-05. CARB identifies passenger vehicle-sourced GHGs as a sector where notable reductions are required, which can be partially achieved through implementation of the land use and transportation strategies in RTP/SCSs.

⁹ CEQA streamlining provisions are also available for eligible projects meeting the criteria established by Senate Bill 226, *CEQA Guidelines* Section 15183.3 (Streamlining for Infill Projects) and for eligible projects meeting the criteria established by Senate Bill 743 (Steinberg, 2013), Public Resources Code Section 21155.4 (Exemptions).

National Environmental Policy Act

Adoption of the Plan is solely at the discretion of SCAG's Regional Council and does not require approval by any federal agency, therefore it not subject to NEPA (Public Law 91-190).¹⁰ However, SCAG recognizes that lead agencies that pursue construction and operation of the transportation projects that are included in the Plan may seek federal funding; federal permits; federal approvals; or authorization to cross over lands administered by an agency of the federal government that would constitute a federal action, thus triggering the procedural provisions of NEPA. Therefore, SCAG has chosen to include a statement of purpose and need (see **Chapter 2.0, Project Description**) to enable proponents of individual projects included in the Plan to use this PEIR in full or in a part to serve as a functional equivalent environmental review, as appropriate, for individual projects that may involve a subsequent federal action triggering the procedural provisions of NEPA. Activities that constitute a federal action, include but are not limited to use of federal funds, right-of-way permits on federal lands, federal leases, and discretionary permits issued by federal agencies. To the extent that the proposed action is adequately characterized, analyzed, and sufficient mitigation measures have been considered to avoid or reduce the anticipated adverse direct, indirect and cumulative effects of the proposed federal action.

Revisions to the State CEQA Guidelines

On December 28, 2018, the updated *CEQA Guidelines* were approved by the Office of Administrative Law. The revisions to the *CEQA Guidelines* apply to the CEQA process (*CEQA Guidelines*, § 15007, subd. (b).) The proposed updates include analyzing transportation impacts pursuant to Senate Bill 743, proposed updates to the analysis of greenhouse gas emissions, new checklist questions for wildfire and energy, and revised Section 15126.2(a) in response to the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369.¹¹ For the purposes of this analysis, the Connect SoCal Plan PEIR utilizes the updated *CEQA Guidelines* Appendix G Checklist.

1.2 PURPOSE AND SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

SCAG has prepared this PEIR to fulfill the basic purposes of CEQA,¹² which are:

- To disclose to the decision-makers and the public significant environmental effects of the proposed activities.

¹⁰ U.S. Fish and Wildlife Services. *The National Environmental Policy of 1969*. Available online at: <https://www.fws.gov/r9esnepa/RelatedLegislativeAuthorities/nepa1969.PDF>, accessed August 23, 2019.

¹¹ Governor's Office of Planning and Research. *Current CEQA Guidelines Update*. Available online at: <http://opr.ca.gov/ceqa/updates/guidelines/>, accessed July 7, 2019.

¹² *CEQA Guidelines* § 15002.

- To identify ways to avoid or reduce environmental damage.
- To prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
- To disclose to the public reasons for agency approvals of projects with significant environmental effects.
- To foster interagency coordination in the review of projects.
- To enhance public participation in the planning process.

Although the PEIR neither controls nor anticipates the ultimate decision of approval on the Plan, SCAG (and other agencies that rely on this PEIR) must consider the information in this PEIR and make findings concerning each potentially significant impact, as identified.

1.2.1 Programmatic Level of Analysis

The focus of the environmental analysis in the PEIR is on regional-scale impacts (which are inherently cumulative impacts as the analysis of the Plan includes a multitude of potential individual projects in the region) of implementation of the Plan and the alternatives. The long-range planning horizon of more than 20 years necessitates that many of the projects included in the Plan (and the alternatives) are identified at the conceptual level. This document addresses environmental impacts to the level that they can be assessed without undue speculation (*CEQA Guidelines* § 15145).¹³ This PEIR acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of the Plan, given its long-term planning horizon.

The degree of specificity in an EIR corresponds to the degree of specificity of the underlying activity being evaluated (*CEQA Guidelines* §15146).¹⁴ Also, the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (*CEQA Guidelines* §§15151,¹⁵ 15204(a)¹⁶). The activity being evaluated in this PEIR is the long-term RTP including the SCS. This PEIR strives to provide as much quantitative detail as feasible regarding the regional environmental impacts of the Plan. Not all impacts can be feasibly and/or accurately quantitatively analyzed at a regional level and/or up to the year 2045.

¹³ CEQA. *Article 10. Considerations in Preparing EIRs and Negative Declarations.*

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ CEQA. *Article 13. Review and Evaluation of EIRs and Negative Declarations.*

The geographic scope, consisting of over 38,000 square miles, and complexity represented by the diverse needs of six counties, 15 subregional areas, 191 cities, and 16 federally recognized tribes¹⁷ that comprise the SCAG region, that are addressed by the Plan, played an important role in determining the appropriate level of detail to include in this PEIR.

Potential significant environmental effects of the Plan were identified by employing multiple analytical methods, including 1) spatial analysis, 2) transportation, noise, land use and air quality modeling and 3) other quantitative, ordinal, and qualitative techniques. Spatial analysis using geographic information systems (GIS) was employed to evaluate the potential effects of the major transportation projects on resource categories such as land use and biological and water resources. Transportation, noise, and air quality simulation models were used to estimate the transportation, noise, and air quality impacts. Transportation projects, anticipated growth distribution pattern, and policies and strategies of the Plan and alternatives were incorporated into the modeling analysis and the socioeconomic projections.

1.2.2 Limitations on the Scope of Analysis

While this PEIR analyzes potential impacts from the Plan utilizing all available sources of data and models, SCAG recognizes that there are limitations on the scope of analysis for the PEIR. For example, assessing the effects of global climate change impacts from regional GHG emissions is well beyond the scale of any other types of impacts considered under CEQA, such as regional conditions relating to air basins, streams or watersheds, or localized conditions such as cultural and biological resources. The global consequences of regional GHG emissions are also dependent on a wide range of factors such as the willingness of federal, state, regional and local governments in the United States and worldwide to adopt or implement meaningful measures to reduce their own GHG emissions; the development and deployment of technologies that reduce GHG emissions; and the many factors that affect the pricing and availability of fuels that result in GHG emissions such as global conflict and taxes. On the other end of the CEQA analytical spectrum, many CEQA thresholds in most topical areas relate to localized environmental conditions and Plan impacts, such as:

- Aesthetics (e.g., degradation of existing visual character of the site and/or creation of new sources of light or glare that affect day or nighttime views)
- Air quality (e.g., localized air toxic pollutant effects from construction)

¹⁷ *Indian Entities Recognized by and Eligible to Receive Services from the United States Bureau of Indian Affairs*. Updated 02/01/2019. Available at: <https://www.federalregister.gov/d/2019-00897>, accessed September 13, 2019.

- Biological Resources (e.g., conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance)
- Cultural Resources (e.g., impacts to individual historical resources)
- Energy (e.g. inefficient use of energy)
- Geology and Soils (e.g., exacerbating, or making soil conditions more unstable)
- Hazards and Hazardous Materials (e.g., exacerbating existing hazards)
- Hydrology and Water quality (e.g., provide substantial additional sources of polluted runoff)
- Land use (e.g., conflict with adopted land use plans such as General Plans and zoning codes)
- Mineral Resources (e.g. loss of known mineral resources)
- Noise (e.g., cause a substantial permanent or temporary increase in ambient noise above preexisting levels)
- Population and Housing (e.g., induce substantial population growth in an area, or displace substantial numbers of people and/or housing units)
- Public Services (e.g., cause a need for new or physically altered physical facilities to maintain acceptable service ratios for recreational parks, schools, and other public services, the construction of which could cause impacts)
- Recreation (e.g., result in an increase in the use of existing neighborhood and regional parks resulting in a need for new parks, the construction of which could cause impacts)
- Transportation and Traffic (e.g., conflict with applicable plans or standards for roadway effective performance metrics or conflict with a congestion management plan designed to achieve effective traffic flow)
- Tribal Cultural Resources (e.g. cause substantial adverse change in the significance of a tribal cultural resources)
- Utilities and Service Systems (e.g., require the construction of facilities, the construction of which would cause significant impacts)
- Wildfire (e.g. expose people to wildfire risk)

These and other examples of CEQA thresholds are aimed at protecting the local environment in which projects occur. At the regional scale of the Plan and in this PEIR, it is difficult to identify with specificity any of these impacts. Nonetheless, each impact category is carefully analyzed in light of Plan components, both land use and transportation, to determine the potential for significance.

1.3 BASELINE FOR DETERMINING SIGNIFICANCE AND THRESHOLDS OF SIGNIFICANCE

The PEIR must identify significant impacts that would be expected to result from implementation of the Plan. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code § 21068).¹⁸ Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (*CEQA Guidelines* § 15126.2(a)).¹⁹ The existing setting is described in detail in each resource section of Section 3.0 of this document, and represents the most recent, reliable, and representative data to describe current regional conditions at the time of publication of the NOP for the PEIR, January 23, 2019. In most instances, the most recent available data was for 2018 or 2019. For population, land use and related modeling analyses (air quality, transportation and noise), base year information is collected every four years as part of the Plan. The base year for the Plan is 2016. For purposes of the PEIR, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Available data that differs from this generalized explanation and used to determine existing conditions is specified in each resource section in Section 3.0 of this document.

CEQA gives the lead agency the responsibility to determine whether an adverse environmental effect identified in an EIR should be classified as “significant” or “less than significant” (*CEQA Guidelines* §15064(b)). Under Section 15064(b), “the significance of an activity may vary with the setting” and, as a result, an inflexible definition of what constitutes a significant effect is not always possible.²⁰ The lead agency has discretion to set its own significance criteria, which requires the lead agency to make a policy judgment about how to distinguish impacts which are adverse, but significant, from impacts which are adverse, but not significant (*Eureka Citizens for Responsible Gov’t v. City of Eureka* [2007] 147 Cal.App.4th 357). A lead agency may select a standard of significance based on its judgment about an appropriate standard of significance (*Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 541). The standards of significance used in an EIR may also rely upon policies adopted and implemented by the lead agency (*Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477). The criteria for determining

¹⁸ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

¹⁹ CEQA. *Article 9. Contents of Environmental Impact Reports.*

²⁰ CEQA. *Article 5. Preliminary Review of Projects and Conduct of Initial Study.*

significance are included in each resource section in **Section 3.0, Environmental Impact Analysis and Mitigation Measures**, of this PEIR.

1.4 CONSIDERATION OF EFFECTS OF REGIONAL POPULATION GROWTH AND PATTERN OF GROWTH

It is important to emphasize that the urbanization in the SCAG region will increase substantially by 2045, with or without implementation of the Plan. The CEQA required environmental baseline of current conditions means that the impact assessment for many of the resource categories is cumulative in nature. Specifically, the analysis assumes all the changes in land use and transportation within the region are attributed to the Plan. This is due to the fact that at the regional scale, it is difficult to parse out the effects of the Plan as compared to effects that would occur without the Plan (although this information is provided in the alternatives analysis as well as some of the sections of the PEIR). Therefore, it is important to provide a meaningful perspective on the effects of implementing the Plan. As required by CEQA, **Section 3.0** of this document provides a direct comparison for each resource category between the expected future conditions with the Plan and the baseline conditions. The comparative analysis of the expected future conditions with the Plan and if no Plan were adopted (the No Project Alternative) is included in some resource analyses and in **Section 4.0, Alternatives**, of this PEIR.

Analysis of the growth distribution pattern in Section 3 (and alternate growth distribution patterns in Section 4) includes an analysis of the anticipated land use development necessary to accommodate the forecasted population, housing and employment growth. However, because locations, densities, orientation timing, and other site-sensitive factors related to development are not specified in the Plan, SCAG cannot reliably quantify the impacts from such anticipated development. In addition, a number of external factors (including energy and water efficiency requirements, air emission standards, etc.) affect the analyses. Without an understanding of how these parameters will change the analysis assumes conservative existing known factors. SCAG can therefore programmatically analyze impacts and provide mitigation measures to address them based on reasonable assumptions regarding transportation projects and growth and conservative assumptions regarding parameters that affect impacts.

1.5 CONNECT SOCIAL PLAN AND ALTERNATIVES TO THE PLAN

When considering whether or not the range of alternatives to be evaluated in an EIR is adequate, several principles apply. The “discussion of alternatives need not be exhaustive,” and the requirement to discuss alternatives is “subject to a construction of reasonableness” (*Residents Ad Hoc Stadium Committee v. Board*

of Trustees (1979) 89 Cal.App.3d 274, 286). “An EIR need not consider every conceivable alternative to a project” (CEQA Guidelines §15126.6(a)).²¹

Under CEQA, perfection is not the standard governing a lead agency's proposed range of project alternatives. Rather, in preparing an EIR, a lead agency must make an objective, good faith effort to provide information permitting a reasonable choice of alternatives that would feasibly attain most of the basic objectives of the project, while avoiding or substantially lessening the project's significant adverse environmental impacts (*California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App. 4th 227, 275-276).

CEQA Guidelines Section 15126.6(d)²² requires an EIR to include sufficient information about each alternative in order to allow meaningful evaluation, analysis, and comparison with the proposed project. They suggest the use of a matrix displaying each alternative's significant environmental effects to summarize the comparison (see Section 4.0). When a large-scale program contains multiple, interrelated objectives, an alternative that does not meet all of those objectives may be excluded from detailed analysis (see *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal. 4th 1143, 1162–1168). An EIR must discuss alternatives to a project in its entirety but is not required to discuss alternatives to each particular component of a project (see *California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App. 4th 227, 276–277). CEQA does not require an EIR to consider multiple variations on the alternatives analyzed. “What is required is the production of information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned” (*Village Laguna of Laguna Beach, Inc. v. 21 Board of Supervisors of Orange County* (1982) 134 Cal.App.3d 1022).

The Plan and each alternative maintain a constant total for population, households, and jobs for the region in 2045. The year 2045 growth projections for each alternative differ only in the distribution of growth.

The following alternatives are described and analyzed in **Chapter 4.0, Alternatives**:

- *No Project Alternative*- The No Project Alternative is required by Section 15126.6(e)(2) of the CEQA Guidelines and assumes that the Plan would not be implemented. The No Project Alternative considers continued implementation of the goals and policies of the adopted 2016 RTP/SCS. The No Project Alternative includes only those transportation projects that are in the first two years of the

²¹ CEQA. *Article 9. Contents of Environmental Impact Reports*. Available online at: <http://resources.ca.gov/ceqa/guidelines/art9.html>, accessed August 23, 2019.

²² Ibid.

previously conforming FTIP (i.e., 2018). The growth scenario included in the No Project Alternative, and all alternatives, includes the same regional totals for population, housing and employment.

- *Existing Plans-Local Input Alternative* - The Existing Plans-Local Input Alternative incorporates jurisdictional general plans and land use information to reflect the Plan’s population, household and employment growth estimates and land use development patterns in the region. This alternative includes policies and strategies in the 2016 RTP/SCS to the extent that they have been incorporated into local jurisdictional plans. This alternative does not include additional land use strategies described in the Plan that go beyond current local policy. This alternative includes projects planned by each County Transportation Commission (CTC).
- *Intensified Land Use Alternative* - The Intensified Land Use Alternative is based on the Plan’s transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario. The land use pattern builds on the land use strategies as described in the Connect SoCal Plan and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around HQTAs to maximize transit opportunities. The growth pattern associated with this alternative optimizes urban areas and suburban town centers, transit-oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater progressive job-housing distribution optimized for TODs and infill in HQTAs.

1.6 MITIGATION MEASURES

1.6.1 General Description and Legal Requirements

CEQA requires that SCAG identify all feasible mitigation measures in the PEIR that will avoid or substantially lessen the significant environmental effects of the project.^{23,24,25} CEQA, however, does not require a lead agency to undertake identified mitigation measures, even if those measures are necessary to address a project’s significant environmental effects, if the agency finds that the measures “are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency”²⁶ *City of Marina v. Bd. of Trustees of the Calif. State Univ.* (2006) 39 Cal.4th 341, 366; see also *Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439). Under these circumstances, the lead agency may find that the measures “can and should” be implemented by the

²³ California Legislative Information, *Chapter 1. Policy [21000-21006]*.

²⁴ California Legislative Information. *Chapter 2.6. General [21080-21098]*.

²⁵ CEQA. *Article 9. Contents of Environmental Impact Reports.*

²⁶ California Legislative Information. *Chapter 2.6. General [21080-21098]*.

other agency or agencies said to have exclusive responsibility/jurisdiction over the measures (*City of Marina*, 39 Cal.4th at 366). As the *CEQA Guidelines* explain, the “finding in subsection (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives.”²⁷

Furthermore, SB 375 specifically provides that nothing in an SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy.²⁸ Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law,²⁹ the zoning law,³⁰ and the Subdivision Map Act.³¹ As such, SCAG has no concurrent authority/jurisdiction to implement mitigation related to land use plans and projects that implement the Plan. With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

CEQA case law has also held that deferral of the specifics of mitigation is permissible where the lead agency commits itself to mitigation and, in the mitigation measure, either describes performance standards to be met in future mitigation or provides a menu of alternative mitigation measures to be selected from in the future (*California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603 [the details of exactly how the required mitigation and its performance standards will be achieved can be deferred pending completion of a future study]; *Endangered Habitats League Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 793 [deferred mitigation acceptable when performance standards are included]; *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1448–1450 [a deferred approach may be appropriate where it is not reasonably practical or feasible to provide a more complete analysis before approval and the EIR otherwise provides adequate information of the project’s impacts]; *Sacramento Old City Assn. v. City Council of Sacramento*, supra, 229 Cal.App.3d at 1028–1029 [deferral of

²⁷ CEQA. Article 7. EIR Process.

²⁸ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions* [21060-21074].

²⁹ California Legislative Information. *Chapter 3. Local Planning* 65100-65763.

³⁰ California Legislative Information. *Chapter 4. Zoning Regulations* 65800-65912.

³¹ California Legislative Information. *Division 2 Subdivisions* 66410-66499.38.

agency’s selection among several alternatives based on performance criteria was appropriate]).³² *CEQA Guidelines* section 15126.4(a)(1)(B) codifies this concept:

“Formulation of mitigation should not be deferred until some future time. However, measures may specify performance standard which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.”

Mitigation measures are subject to the same rules regarding level of detail appropriate to the EIR being prepared. In this case, the PEIR addresses a large-scale region with a variety of projects spread over more than 20 years. As such, this PEIR identifies program-wide measures for implementation by SCAG. In addition, the PEIR identifies project-level mitigation measures for lead agencies to consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. It is ultimately up to the lead agency to determine the appropriateness of the mitigation measure based on project-specific circumstances. As appropriate and authorized by the *CEQA Guidelines* and case law, the program-wide mitigation measures included in this PEIR are less detailed than those that would be part of a project EIR and the selection of detailed mitigation measures is properly deferred to future project-specific CEQA reviews.

The project-level mitigation measures identified by SCAG (or comparable measures) “can and should” be considered by lead agencies in project-specific environmental review documents as appropriate and feasible. This language mirrors *CEQA Guidelines* section 15091(a)(2), and it is assumed that each lead agency for specific projects would have the ability to impose and enforce these measures (i.e., that they can implement them). Lead agencies for specific projects are responsible for developing project specific mitigation measures and ensuring adherence to such mitigation measures.

While the PEIR strives to provide as much detail as possible in the mitigation measures, some flexibility must be maintained to present mitigation approaches for impacts occurring over a large geographic scope and caused by a wide variety of transportation and land use activities. CEQA case law provides that a first-tier EIR may contain generalized mitigation criteria (see, e.g., *Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29). In addition, in each resource area, the PEIR identifies mitigation measures which are performance standards-based, which lead, responsible, or trustee agencies “can and should” comply with in assessing and mitigating project-specific impacts. SCAG then identifies examples of project-level mitigation measures that may be required by lead agencies, to meet performance standards. Lead

³² Note that in litigation challenging SANDAG’s adoption of its 2050 Regional Transportation Plan/Sustainable Communities Strategy, the California Court of Appeal found that “[a]n EIR may not defer the formulation of mitigation measures to a future time, but mitigation measures may specify performance standards which would mitigate the project’s significant effects and may be accomplished in more than one specified way.” *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2014) 231 Cal. App. 4th 1056, 1089 (partially reversed on other grounds by *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497).

agencies may also identify other comparable measures capable of reducing impacts below the specified threshold.

For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226, or for projects otherwise tiering off this PEIR, the project-level mitigation measures described in this PEIR (or comparable measures) can and should be considered and implemented by lead agencies (and project sponsors) during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require lead agencies to adopt mitigation, and it is ultimately the responsibility of the lead agency to determine and adopt project-specific mitigation as appropriate and feasible for each project.

The performance standards-based mitigation measures used in this PEIR recognize the limits of SCAG's authority; distinguish between SCAG commitments and project-level responsibilities and authorities; optimize flexibility for project implementation; and facilitate CEQA streamlining and tiering where appropriate on a project-by-project basis determined by each lead agency.³³

1.6.2 Transportation Project Mitigation

SCAG's role is to prioritize and facilitate transportation projects consistent with federal and state transportation planning law. For individual transportation projects included in the Plan, SCAG has no authority to approve or implement such projects. In general, individual transportation projects in the Plan will be implemented by Caltrans, CTCs, local transit agencies, local governments or other public agencies.³⁴ These agencies routinely implement the types of mitigation measures identified in this PEIR during project design, CEQA review, and/or project construction. The example measures directed at lead agencies included in this PEIR are intended to be permissive and not mandatory. This PEIR has made a preliminary determination that it is feasible to reduce impacts in many cases and that there is more than one specified way to accomplish this through mitigation. However, lead agencies retain the discretion to

³³ Note that compliance with existing regulations, such as the Uniform Building Code and California Building Code, is not necessarily considered mitigation because compliance is already required. However, such regulations do reduce environmental impacts and are identified herein where appropriate, to provide additional information on the how potential impacts are reduced. In some cases, as indicated in the PEIR, regulatory compliance is sufficient to reduce impacts to a level of less than significance. In other cases, mitigation is proposed to ensure and/or specify the means of compliance with regulations that lack specificity.

³⁴ In this document, lead agencies for transportation projects are also referred to as project-implementing agencies as they are responsible for carrying out (reviewing, approving, constructing, and/or operating) transportation projects included in the Project List (See **Appendix 2.0, Plan Project List**) to the Draft Plan. Individual projects that are anticipated to occur pursuant to the Plan consist of planning projects (general plans, specific plans, climate action plans, etc.), development projects including Transit Priority Projects (TPPs) and other similar projects, and transportation projects. Lead agencies for such projects are usually local governments and project sponsors are responsible for constructing and operating local development projects.

determine which mitigation measures are most applicable to each individual project and whether they are feasible under location-specific circumstances.

1.6.3 Land Use Planning and Development Project Mitigation

As discussed above, SCAG has no authority to approve or implement local land use projects resulting from land use strategies in the Plan. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties. In addition, cities and counties are not required to change their current or future land use plans and policies, including general plans, to be consistent with an RTP/SCS (Government Code §65080(b)(2)(K)).³⁵ Generally, local governments are the lead agencies responsible for mitigation of the impacts of land use plans and development projects that implement the Plan, and SCAG has no concurrent authority to mitigate the impacts of land use plans and development projects. Local governments routinely implement the types of mitigation measures identified in this PEIR during project design, CEQA review, and/or project construction. This PEIR has made a preliminary determination it is feasible to meet reduce impacts with mitigation measures and that there are more than one specified way to accomplish this.

1.7 PUBLIC PARTICIPATION AND CONSULTATION FOR THE PLAN

The Plan was developed with input from the public in accordance with the adopted Public Participation Plan. SCAG recognizes the need for early engagement during the development of the RTP/SCS. For members of the public, SCAG conducted 28 open house workshops on the Plan between June and July 2019.³⁶ These goals of these events was to share the purpose of Connect SoCal, introduce and provide information on policies and strategies under consideration, describe the performance outcomes of the different policy choices and receive input from participants. Scenarios were developed to help facilitate discussion during the development of the Draft Plan and to evaluate how each scenario would perform in terms of meeting the goals and guiding policies of the Plan and other performance metrics. SCAG also broadened its participation activities in the development of the Plan to engage a more extensive group of stakeholders in its planning and programming processes. SCAG held five public workshops on environmental justice for the Plan.

The Draft Plan was released by the Regional Council for a 70-day public comment and review period, while the Draft PEIR will undergo a 45-day public comment and review period. SCAG plans to engage in additional public participation activities during the 70-day public review and comment period on the

³⁵ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

³⁶ Southern California Association of Governments, Public Participation and Consultation Report, November 2019

Draft Plan and the 45-day public review and comment period on the Draft PEIR. The public review and comment period for the Plan commenced on November 14, 2019 and will close on January 24, 2020. The public review and comment period will commence on December 9, 2019, and close on January 24, 2020. To help further inform local, state and federal agencies, and other interested agencies, organizations, and individuals (“Interested Parties”) about the elements of the Draft Plan, SCAG has posted announcements and videos on its website, blog sites, and its social networking pages (Facebook, Twitter); prepared factsheets and other outreach materials in English, Spanish, Chinese, Korean and Vietnamese; and placed ads and public announcements in 12 newspapers, including the ethnic press.

During public review and comment period for the Draft Plan, SCAG will hold public workshops related to the Plan and a separate workshop on the PEIR. Although the informational workshops will be targeted towards public officials and agency representatives, they will be open to the public, and time will be allowed for public comment. SCAG will also conduct additional outreach activities, as appropriate, to the business community, ethnic groups, Native American tribes, and other stakeholders during the public review period, as needed.

With the release of the Draft Plan, SCAG will make available the interactive Plan website that provides for easy navigation through the various sections of the Plan and allows visitors to submit comments through the online form. In addition to the online forum, SCAG will continue to accept public input through mailings, and at public workshops.

Comments received during the public review period of the Draft Plan will be considered and included along with SCAG’s responses to comments in the Final Plan document.

1.8 PUBLIC PARTICIPATION AND CONSULTATION FOR THE PEIR

Pursuant to Public Resources Code Section § 21080.4 and *CEQA Guidelines* §§ 15082 and 15375, the NOP for the Draft Plan was released on January 23, 2019, and circulated for a 30-day comment period ending February 22, 2019. SCAG hosted two scoping meetings on February 13, 2019 at 3:00 pm to 5:00 pm, and at 6:30 pm to 8:00 pm. The meetings were convened in the SCAG’s main office in Los Angeles, with videoconferencing available at SCAG regional offices in Imperial, Orange, Riverside, and San Bernardino Counties. Videoconferencing was made available at two additional locations in the Cities of Palm Desert (Coachella Valley Association of Governments) and Palmdale. SCAG received 25 comment letters in response to the NOP. The scope and content of the PEIR were developed in light of the comments received in response to the NOP.

The NOP was sent to the State Clearinghouse on January 23, 2019; posted with the County Clerks for the six counties in the SCAG region; and distributed to various federal, state, regional and local government

agencies, and other interested agencies, organizations, and individuals. The NOP was made available on SCAG's website at <https://www.connectsoal.org/Documents/PEIR/NOP-PEIR-ConnectSoCal.pdf>. The NOP was published in 12 newspapers, including the Los Angeles Times, and additional newspapers that address the large geographic reach and diverse population within the SCAG region:

- Desert Sun
- Imperial Valley
- La Opinion
- Los Angeles Sentinel
- Los Angeles Times
- Nguoi Viet
- Press Enterprise
- San Bernardino County Sun
- The Korean Times
- The OC Register
- Ventura County Star
- World Journal (Chinese Daily News)

The NOP was circulated primarily using electronic mail to over 500 interested parties, including representatives of Native American tribes. The NOP was mailed directly to approximately 100 interested parties, including federal, state, regional and local agencies, organizations and major libraries in the region using the U.S. Postal Service certified mail service. The NOP was also posted at the following locations:

SCAG Main Office
900 Wilshire Boulevard, 17th Floor,
Los Angeles, CA 90017

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501

SCAG Imperial County Regional Office
1503 N. Imperial Avenue, Suite 104
El Centro, CA 92243

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

SCAG Orange County Regional Office
600 South Main Street, Suite 741
Orange, CA 92868

The NOP provided notification of the two public scoping meetings for interested parties to receive information on the Plan and the related CEQA process as well as providing an opportunity for the submittal of comments both by mail and electronically. **Appendix 1.0** of the PEIR includes a copy of the NOP and written comments received in responses to the NOP.

Written comments on this Draft PEIR should be transmitted during the 45-day public review and comment period (January 24, 5:00 p.m.) to the following address:

SCAG Main Office
Attn: Mr. Roland Ok
900 Wilshire Boulevard, 16th Floor
Los Angeles, CA 90017

Comments may also be submitted electronically to 2020PEIR@scag.ca.gov

Formal written responses will be prepared and incorporated into the Final PEIR for the Plan to address written comments submitted on the Draft PEIR.

Written comments provided by the interested parties will be evaluated. Written responses will be prepared for comments received during the comment period. Upon completion of the evaluation, a Final PEIR will be prepared and provided to the SCAG Regional Council for consideration for certification of compliance with CEQA, and for review and consideration as part of the decision-making process undertaken by the Regional Council for the Plan.

1.9 CEQA STREAMLINING

The CEQA process is often viewed as cumbersome and costly, particularly if the environmental reviews and project approvals are litigated. In order to minimize such delays and to streamline the CEQA environmental review process, the California Legislature signed into law, Senate Bill (SB) 375, SB 226, and SB 743. These laws provide for streamlined review of residential and mixed-use projects consistent with the SCS; modified review and analysis, through an expedited Sustainable Communities Environmental Assessment (SCEA), for Transit Priority Projects (TPPs) that are consistent with the SCS; and a complete CEQA exemption for TPPs that are consistent with the SCS and meet a specific list of other requirements. Infill and transit-oriented development projects at the local levels in particular, can proceed faster through the entitlement and environmental processes by relying on regional project CEQA approvals. Having a certified RTP/SCS PEIR allows for “tiering” for subsequent, individual projects. A regionally adopted EIR such as this PEIR, as a first-tier document, could lead to negative declarations (NDs),

mitigated negative declarations (MNDs), or even statutory or categorical exemptions for subsequent second-tier environmental documents.

1.9.1 Sustainability Communities and Climate Protection Act of 2008 (SB 375) (Steinberg, 2008)

The Sustainable Communities and Climate Protection Act of 2008 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows a CEQA exemption for Sustainable Community Projects, as well as streamlined CEQA analysis for Transit Priority Projects (TPPs) and certain residential or mixed-use projects.³⁷

The purpose of the SCS is to develop strategies to meet the GHG emission reduction targets for the region, and qualifying projects that are consistent with the SCS will help meet this goal. Furthermore, because the potential impacts of the SCS are analyzed in this PEIR, the qualifying projects may take advantage of the CEQA streamlining provisions contained in SB 375. The intent of the CEQA streamlining provisions is not to undercut or circumvent CEQA requirements, but rather to reduce documentation and redundancy and to provide an incentive to support residential and transportation projects that are consistent with a larger effort to reduce GHG emissions.

The following is a summary of the CEQA streamlining provisions in SB 375. For the purpose of determining consistency for CEQA streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan.

A Transit Priority Project (TPP) is eligible for four types of CEQA relief: (1) Sustainable Communities Project CEQA Exemption, (2) Sustainable Communities Environmental Assessment, (3) a streamlined EIR, or (4) traffic mitigation measures. Different types of CEQA relief are associated with different criteria that are to be met.

As a threshold matter, to qualify as a TPP, a project must be consistent with the general land use designation, density, building intensity and applicable policies in an SCS accepted by the State Air Resources Board. The TPP must also meet four standards:

- Be at least 50 percent residential use based on area.
- Contain at least 20 dwelling units/acre.
- Have a floor area ratio for the commercial portion of the project at 0.75, if the project contains between 26 percent and 50 percent nonresidential uses.

³⁷ California Legislative Information. *Senate Bill No. 375*.

- Be within 0.5 mile of a major transit stop³⁸ or high-quality transit corridor³⁹ included in the RTP.

Sustainable Communities Project Exemption

The Sustainable Communities Project (SCP) Exemption is a TPP, which is consistent with the SCS and meets nine criteria for eligibility for use of the exemption.⁴⁰

- The project and approved projects can be served by utilities, and project will pay applicable in-lieu or development fees.
- Does not include wildlife habitat of significant value or protected species.
- Is not contaminated (site is not on Cortese list).
- Site is subject to preliminary endangerment assessment regarding potential exposure to health hazards from nearby activities. Any hazards are to be mitigated to less than significant.
- Would not significantly affect an historic resource.
- The site is not subject to wildland fire hazard, unusually high risk of fire/explosion from materials on adjacent properties, health hazard, seismic risk, landslide, or flood plain.
- The site is not located on developed open space.
- The project would be 15 percent more efficient than Title 24, and landscaping would use 25 percent less water than the regional average household.

In addition, the project must meet seven additional parameters related to size, siting, and protection of affordable housing:

- The site is not more than 8 acres.
- The project does not contain more than 200 units.
- The project does not result in the net loss of affordable housing.

³⁸ Defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

³⁹ Defined as a corridor with fixed route bus service with 15-minute service intervals during peak commute hours.

⁴⁰ California Legislative Information. *Senate Bill No. 375*.

- No single level building that exceeds 75,000 square feet.
- Applicable mitigation, performance standards, criteria from prior EIRs will be incorporated in to the TPP.
- The project would not conflict with nearby operating industrial use.
- The project is located within 0.5 mile of rail transit station or ferry terminal included in RTP, or within 0.25 mile of a high-quality transit corridor.

The project must provide at least one of three specified community benefits:

- At least 20 percent of the housing will be for moderate income or 10 percent rented to low income, or not less than 5 percent rented to very low income, and developer provides commitment to ensure continued availability to these income groups for the period.
- Developer pays in-lieu fees pursuant to local ordinance to result in an equivalent number of units that would otherwise be required in a) above.
- Project provides public open space 5 acres/1,000 residents.

After a public hearing where a legislative body finds that a TPP meets all the requirements, a project can be declared to be an SCP and can be exempted from CEQA.

Sustainable Communities Environmental Assessment

A TPP that does not meet the Sustainable Communities Project Exemption may nevertheless qualify for a Sustainable Communities Environmental Assessment (SCEA) if the project incorporates all feasible mitigation measures, performance standards, or criteria set forth in prior applicable certified environmental impact reports (including the Plan PEIR) (Pub. Res. Code § 21155.2(b)).⁴¹ An SCEA is comparable to a negative declaration since the lead agency must find that all potentially significant impacts of a project have been identified, adequately analyzed, and mitigated to a level of insignificance. However, unlike a negative declaration, the SCEA need not consider the cumulative effects of the project that have been adequately addressed and mitigated in prior EIRs. Also, growth-inducing impacts are not required to be referenced, described or addressed. Additionally, project specific or cumulative impacts from cars and light duty truck trips on global warming or the regional transportation network need not be referenced, described or discussed.

⁴¹ California Legislative Information. *Chapter 4.2. Implementation of the Sustainable Communities Strategy [21155-21155.4]*.

The SCEA will be circulated for 30 days, comments will be considered, and then the SCEA may be approved after a public hearing provided impacts are mitigated. The SCEA will be reviewed under the substantial evidence standard, which means a court will uphold an agency's decision if there is substantial evidence in light of the whole record to support its action. This is different from the normal CEQA fair argument standard, which is less deferential and states that an EIR must be prepared when after examining the entire record, there is substantial evidence to support a fair argument that the project may have a significant effect on the environment. The substantial evidence standard makes it more difficult for a petitioner to challenge an SCEA.

Transit Priority Project Streamlined Environmental Impact Report

Instead of an SCEA, a lead agency may choose to perform a streamlined EIR. If, after conducting an Initial Study (IS), the lead agency determines that an EIR is required, it only need address potentially significant impacts. Where a cumulative effect has been adequately addressed and mitigated in a previous EIR (such as the Plan EIR), that cumulative effect shall not be treated as cumulatively considerable.

The EIR is not required to analyze off-site alternatives to the TPP or discuss a reduced residential density alternative to address the effects of car and light duty truck trips generated by the project. Furthermore, the EIR is not required to include an analysis of growth inducing impacts or any project specific or cumulative impacts from cars and light duty trucks trips generated by the project on global warming or the regional transportation network. The IS must identify any cumulative effects that have been adequately addressed and mitigated in prior applicable certified EIRs and these cumulative effects are not to be treated as cumulatively considerable in the EIR.

Traffic Mitigation Measures

After a public hearing, a legislative body or local jurisdiction may adopt traffic mitigation measures that apply to TPPs (such measures must be updated as necessary every five years), including requirements for the installation of traffic control improvements, street or road improvements, and contributions to road improvement or transit funds, transit passes for future residents, or other measures that will avoid or mitigate traffic impacts of TPPs. If such measures are adopted by a local jurisdiction, no additional traffic mitigation are required for TPPs (measures addressing public health and bicycle safety may still be imposed).

Other CEQA Streamlining within SB 375

SB 375 also provides for general CEQA streamlining for residential and mixed-use residential projects as well as TPPs. Pursuant to Section 21159.28 of the Public Resources Code, projects that meet the following requirements can be subject to streamlined CEQA review:⁴²

- A residential or mixed-use residential project (or a TPP) consistent with the designation, density, building intensity, and applicable policies specified for the project area in an accepted SCS (a residential or mixed-use residential project is a project where at least 75 percent of the total building square footage of the project consists of residential use or a project that is a transit priority project).
- Incorporates the mitigation measures required by an applicable prior environmental document.
- If a project meets these requirements, any exemptions, negative declarations, mitigated negative declarations, SCEA, EIR or addenda prepared for the projects shall not be required to reference describe, or discuss two areas that are normally required:
 - Growth inducing impacts.
 - Any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network.

1.9.2 CEQA Streamlining for Infill Projects (SB 226) (Simitian, 2011)

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill.⁴³ SB 226 defines “infill project” as a project that (a) consists of one or a combination of the following uses: residential, retail/commercial (where no more than one-half of the project area is used for parking), transit station, school and public office building; and (b) is located within an urban area, and is either on a site that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins (or is separated only by an improved public right-of-way from) parcels that are developed with qualified urban uses.

SB 226 allows limited CEQA review for certain infill projects through a process that resembles “tiering” of EIRs under CEQA. Tiering refers to environmental review of sequential actions, where general matters and environmental effects are examined in a broad EIR for a decision such as adoption of a policy, plan, program, or ordinance, and subsequent narrower or site-specific EIRs are prepared that incorporate by

⁴² California Legislative Information. 2002. *Article 6. Special Review of Housing Projects [21159.20-21159.28]*.

⁴³ *Senate Bill No. 226.*

reference the prior EIR and concentrate on environmental effects that can be mitigated or that were not analyzed in the prior EIR. In such instances, the later narrow EIR “tiers” off the prior broad EIR.

SB 226 provides that if an EIR was certified for the enactment or amendment of a city or county general plan, community plan specific plan, or zoning code, CEQA review for approval of a qualifying SB 226 infill project is limited to (a) environmental effects that are specific to the project or project site and were not addressed as significant effects in the prior EIR, or (b) substantial new information showing that environmental effects will be more significant than described in the prior EIR. A lead agency's determination pursuant to new statutory provisions authorizing SB 226 limited CEQA review must be supported by substantial evidence.

Limited CEQA review under SB 226 is available for an infill project located within an MPO region if the project (a) is consistent with the general use designation, density, building intensity and applicable policies specified for the project area in the SCS, and (b) satisfies all applicable statewide performance standards contained in the Implementation Guidelines. However, SB 226 does not specify which agency is responsible for determining whether the project is consistent with relevant SCS policies. As stated above, SB 375 expressly states that an SCS does not regulate the use of land, and that nothing in an SCS shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region (CA Gov't Code § 65080(b)(2)(K)).⁴⁴ Moreover, SB 375 does not require consistency between the SCS and city or county general plan, community plan, specific plan, or local zoning ordinance. As such, for purpose of determining consistency for CEQA streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2020 RTP/SCS.

1.9.3 Transit-Oriented Infill Projects (SB 743) (Steinberg, 2013)

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and provides opportunities for CEQA streamlining to facilitate transit-oriented development (TOD), which is to update the *CEQA Guidelines* to include the vehicle miles traveled (VMT)-based transportation impact metric. Prior to SB 743, CEQA transportation impacts were assessed through “Level of Service” (LOS) analysis, which focused exclusively on motor vehicle delay. SB 743 seeks to encourage development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development

⁴⁴ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA.⁴⁵

SB 743 exempts from CEQA, residential, employment center, or mixed-use development projects, including any subdivision, or any zoning, change that meets all of the following criteria:

- 1) The project is proposed within a transit priority area.
- 2) The project is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified.
- 3) The project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy accepted by the State Air Resources Board.⁴⁶

The exemption cannot be applied if a project would cause new or worse significant environmental impacts compared to what was analyzed in the environmental impact report for the specific plan. In that case, supplemental environmental review must be prepared.

Furthermore, “[a]esthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.”⁴⁷ However, the exemption for aesthetic impacts does not include impacts to historic or cultural resources. Local governments retain their ability to regulate a project’s transportation, aesthetics, and parking impacts outside of the CEQA process pursuant to local design review ordinances or other discretionary powers.

A Transit Priority Area (TPA) is an area that is located within one-half mile of an existing or planned major transit stop. A “major transit stop” refers to a site containing an existing rail transit station or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. To qualify as a TPA, a planned major transit stop needs to be scheduled for completion within the planning horizon included in the adopted FTIP or RTP. A TPA is a subset of the High Quality Transit Areas (HQTA) described in the Plan, excluding the one-half-mile buffer area along the high-quality transit corridors (which are corridors with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours).

⁴⁵ California Legislative Information. 2013. *Senate Bill No. 743*.

⁴⁶ See Pub. Res. Code § 21155.4.

⁴⁷ Pub. Res. Code § 21099(d).

For infill development, including TOD, SB 743 provides a rationale for the development of a new metric to evaluate CEQA transportation impacts, as the previous LOS practice focused only on motor vehicle delay, which often penalized infill and active transportation projects. SB 743 established that the new transportation impact analysis methodology should appropriately balance the needs of congestion management with statewide goals related to transit-oriented mixed-use infill development, promotion of public health through active transportation, and reduction of GHG emissions. These principles complement the goals and policies of the SCAG Plan outlined in Section 2.0, Project Description, of this PEIR.

While SB 743 did not include the substantive specifics of the new CEQA transportation impact analysis methodology, it directed the OPR to develop guidance for establishing an alternative metric for evaluating the transportation impact of projects located within TPAs to replace LOS analysis. The criteria provided by SB 743 for selecting an alternative methodology was that it must serve to promote reduction of GHG emissions, stimulate development of multimodal transportation networks, and encourage a diversity of land uses. OPR also provided the option to extend application of the alternative metric for evaluating CEQA transportation impacts to locations outside of TPAs.

The updated *CEQA Guidelines* were approved by the Office of Administrative Law and the California Natural Resources Agency on December 28, 2018.⁴⁸ The *CEQA Guidelines* update package included changes to the Guidelines section implementing Senate Bill 743 (§ 15064.3).⁴⁹ OPR has also developed a Technical Advisory on Evaluating Transportation Impacts in CEQA which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.⁵⁰

The revised *CEQA Guidelines* state that vehicle level of service (LOS) and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts, and that as of July 1, 2020, this requirement shall apply statewide, but that until that date, lead agencies may elect to rely on VMT rather than LOS to analyze transportation impacts. (Although CEQA was updated as of January 1, 2019 to specify that VMT is the most appropriate basis for determining significance of transportation impacts.⁵¹) It should be noted that SCAG has traditionally undertaken VMT analysis as this metric is more-appropriate for a regional-scale document. While LOS analysis is useful in determining the efficiency of local intersections, it is not a useful tool in determining the efficiency of an

48 Governor's Office of Planning and Research. *Current CEQA Guidelines Update*. Available online at: <http://opr.ca.gov/ceqa/updates/guidelines/>, accessed July 7, 2019.

49 Governor's Office of Planning and Research. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: <http://opr.ca.gov/ceqa/updates/sb-743/>, accessed July 25, 2019.

50 Governor's Office of Planning and Research. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed July 25, 2019.

51 *CEQA Guidelines* § 15064.3

entire system such as the RTP. For these reasons, VMT is the most appropriate tool to understand overall performance of the regional transportation network.

To aid in SB 743 implementation, the following state guidance has been published:

- Technical Advisory on Evaluating Transportation Impacts in CEQA;⁵²
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals;⁵³ and
- Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015-2020 Consistent with SB 743.⁵⁴

Discussion of the Plan’s relationship to these documents is provided in **Section 3.8 Greenhouse Gas Emissions** and **Section 3.17 Transportation, Traffic and Safety**.

1.9.4 Streamlining Greenhouse Gas Analyses

OPR has published guidance with respect to how to evaluate climate change as a whole, including analysis of transportation impacts (including consideration of SB 743) and how to evaluate different types of projects including transportation projects and land use plans, is provided in the following document:

- CEQA and Climate Change Advisory, Discussion Draft (OPR, December 2018).

This document summarizes relevant regulations and discusses different approaches (both quantitative and qualitative) to analyzing different types of projects. The document further discusses how the analysis of GHG for individual projects may be streamlined through the preparation of greenhouse gas emission reduction plans such as climate action plans. The document suggests that emissions from individual projects may best be analyzed and mitigated at the programmatic level in community or regional-level plans, policies, or measures focused on reduction of GHG emissions.⁵⁵

1.9.5 Summary

As provided above, there are multiple streamlining options for local jurisdictions. SCAG’s intent with this PEIR is to allow maximum flexibility and utility in the streamlining process. For these reasons, SCAG is

⁵² Office of Planning and Research, December 2018 http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

⁵³ California Air Resources Board, January 2019 https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf

⁵⁴ Caltrans, November 2016 <http://www.dot.ca.gov/hq/tpp/documents/RevisedInterimGuidance11092016.pdf>

⁵⁵ Office of Planning and Research. 2019. *CEQA and Climate Change*. Available online at: http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Advisory.pdf, accessed October 29, 2019.

not proposing any specific means of streamlining from this PEIR. Rather, each jurisdiction can use the methods that best fit within their planning framework. As described in the mitigation measures section above, it is the intent of SCAG to allow project sponsors to use mitigation measures identified or comparable measures (as determined by the project sponsor/local jurisdiction). SCAG encourages project sponsors to streamline documents using any of the methods described above and to use this PEIR as a means to do so.

1.10 ORGANIZATION OF THE PEIR

This document is organized into seven chapters, plus an Executive Summary.

Executive Summary: The Executive Summary contains an introduction, project summary, and a summary of the expected environmental impacts resulting from implementation of the Plan and the measures recommended to mitigate those impacts. The summary also includes a comparison of the expected environmental effects of each alternative to the Plan, as well as the areas of controversy, including issues raised by agencies and the public. Additionally, the Executive Summary includes issues to be resolved, including the choice among alternatives, and whether or how to mitigate the significant effects.

Chapter 1.0: Introduction. This section provides an overall introduction to the PEIR, the CEQA process, and the PEIR analytical approach. It describes the SCAG region and authority, purpose and scope of the PEIR; the characterization of baseline conditions; summary of the environmental review and public outreach process; provisions for CEQA for streamlining opportunities; consideration of the potential subsequent, currently unspecified, review pursuant to NEPA, if applicable; acknowledgement of pending approved and potential changes to the regulatory framework that may affect environmental review at the second tier of analysis; and an overview of the contents of the PEIR.

Chapter 2.0: Project Description. Consistent with the provision of Section § 15124 of the *State CEQA Guidelines*, this section provides the location and boundaries of the Plan; states the plan's objectives; contains a general description of the technical, economic, and environmental characteristics of the Plan; and includes a statement briefly describing the intended uses of the PEIR. Although federal environmental review is not required, a discussion of purpose and need for the Plan is also included along with the CEQA-required project objectives.

Chapter 3.0: Environmental Setting, Impacts and Mitigation Measures. This section identifies the environmental setting for the Plan and provides a programmatic analysis of the Plan for the region. The following resource categories are analyzed in this section: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas

Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality, Land Use and Planning; Mineral Resources; Noise; Population/Housing; Public Services; Recreation; Transportation; Tribal Cultural Resources; Utilities and Service Systems; Wildfire and cumulative impacts. For each of these resource categories, the analysis addresses: Regulatory Framework, Existing Conditions, Methodology, Thresholds of Significance, Impact Analysis, Cumulative Impacts, Mitigation Measures, and Level of Significance after Mitigation. As required by CEQA, the determination of impacts is based on a comparison of the future Plan conditions to the existing conditions (*CEQA Guidelines* § 15126(a)). This section includes figures that geographically depict spatial and quantitative data.

Chapter 4.0: Alternatives. This section describes a range of reasonable alternatives to the Plan, which would feasibly attain most of the basic objectives of the Plan but would avoid or substantially lessen any of the significant effects of the Plan at a programmatic and region-wide level. It includes a comparison of the Plan to the No Project Alternative, the Intensified Land Use Alternative, and the Local Input Alternative. The Alternatives are evaluated and compared to the Plan for the resource categories evaluated in **Chapter 3.0**.

Chapter 5.0: Other CEQA Considerations. This section identifies the significant unavoidable environmental effects, significant irreversible environmental effects, growth inducing impacts, and irreversible damage from environmental accidents of the Plan.

Chapter 6.0: Persons and Sources Consulted. This section lists the contributors to the preparation of this PEIR and the reference material used.

Chapter 7.0: Glossary. This section includes the acronyms used in the document.

Appendices. The Draft PEIR appendices include:

- **Appendix 1.0:** Notice of Preparation and Comments on Notice of Preparation
- **Appendix 2.0:** Plan Project List
- **Appendix 3.3:** Health Risk Assessment Technical Report
- **Appendix 3.4:** Biological Resources Technical Report
- **Appendix 3.5:** Cultural Resources Technical Report
- **Appendix 3.7** Paleontological Resources Technical Report
- **Appendix 3.13:** Aviation Noise Technical Report

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2.0 PROJECT DESCRIPTION

Consistent with the provisions of Section 15124 of the State California Environmental Quality Act (CEQA) Guidelines, this section provides information regarding the Program Environmental Impact Report (PEIR) for the 2020- 2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the Connect SoCal Plan (“Connect SoCal” or “Plan”), including the Plan’s location, objectives and characteristics. Connect SoCal has been prepared to comply with metropolitan planning laws, 23 U.S.C.A. Section 134 et seq. and California Government Code 65080 et seq., which require the preparation of a regional transportation plan that offers policy guidance for projects within SCAG’s jurisdiction.

2.1 INTRODUCTION

Connect SoCal is a long-range comprehensive plan for the region’s multi-modal transportation system. Preparing the Plan is one of SCAG’s primary statutory responsibilities under federal and state law. A regional transportation plan (RTP) is the mechanism used in California by both Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPA) to conduct long-range (at least 20-year) planning in their regions. SCAG must adopt an RTP and update it every four years, or more frequently, if the region is to receive federal and state transportation dollars for public transit, streets/roads, and bicycle and pedestrian improvements.

In 2008, California enacted the Sustainable Communities and Climate Protection Act, also known as Senate Bill 375 (Stats. 2012, Ch. 728) (SB 375), which requires MPOs to include a Sustainable Communities Strategy (SCS) element as part of their RTP updates, with the purpose of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. The SCS is required to identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an eight-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC. § 7401 *et seq.*) (Gov. Code, § 65080, subd. (b)(F)(2)(B)), of which, when integrated with the transportation network, and other transportation measures and policies will reduce the GHG from automobiles and light duty trucks to achieve, if there is a reasonable way to do so, the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the GHG emission targets set by ARB,

an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

In 2012, SCAG adopted its first combined Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range plan for transportation in the region that links air quality, land use, and transportation needs. The RTP/SCS was last updated in 2016. The proposed Plan updates the growth forecast, land use assumptions, and transportation investments that served as the foundation of both the 2012 and 2016 plans.

The Plan includes a growth forecast with population, household and employment growth anticipated to occur in the SCAG region by 2045; a transportation network including a list of transportation projects in the region; and a forecasted development pattern with land use and transportation strategies that the region could pursue over the Plan horizon. The Plan was developed to achieve targets for greenhouse (GHG) emissions reductions, consistent with SB 375 and other regional goals.

The Plan further identifies the purpose and goals, tracks trends and evaluates project performance, details financial assumptions and expenditures, and profiles key transportation investments. Please see the Draft Connect SoCal Plan and supplementary technical reports for full details, or visit SCAG's Connect SoCal Website located at: <https://www.connectsocial.org/Pages/default.aspx>

This section describes the regional setting, growth forecasts and regulatory framework that provide the context for the Plan. The background information is followed by a description of the Plan, including the Plan's purpose, objectives and key components.

2.2 REGIONAL LOCATION AND GENERAL SETTING

2.2.1 Regional Location

The SCAG region consists of six counties that includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, and 191 cities (**Figure 2.0-1, SCAG Region**). The total area of the SCAG region is approximately 38,000 square miles. Additionally, the SCAG region consists of 15 sub-regional entities that have been recognized by the Regional Council, SCAG's governing body, as partners in the regional policy planning process (**Figure 2.0-2, SCAG Subregions**). The SCAG region is home to approximately 19 million people. This represents 5.8 percent of the 328 million people in the United States and 48 percent of California's population.¹ To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the U.S.-Mexico border; to the west and south is the

¹ Connect SoCal Demographics & Growth Report, 2019

county of San Diego; and to the northwest is the Pacific Ocean. The region includes the county with the largest land area in the nation, San Bernardino County; as well as the county with the highest population in the nation, Los Angeles County.

Imperial County. Imperial County covers an area of 4,482 square miles. El Centro is the city with the highest population level in the county, with approximately 46,248 people. Overall, the county has 190,266 residents.²

Los Angeles County. Los Angeles County covers an area of 4,751 square miles. Los Angeles is the city with the highest population level in the county, with approximately 4,040,079 people. Overall, the county has 10,253,716 residents.³

Orange County. Orange County covers an area of 948 square miles. Anaheim is the city with the highest population level in the county, with approximately 359,339 people. Overall, the county has 3,222,498 residents.⁴

Riverside County. Riverside County covers an area of 7,303 square miles. Riverside is the city with the highest population level in the county, with approximately 328,101 people. Overall, the county has 2,440,124 residents.⁵

San Bernardino County. San Bernardino County covers an area of 20,105 square miles. San Bernardino is the city with the highest population level in the county, with approximately 219,233 people. Overall, the county has 2,192,203 residents.⁶

Ventura County. Ventura County covers an area of 2,208 square miles. Oxnard is the city with the highest population level in the county, with approximately 209,879 people. Overall, the county has 856,598 residents.⁷

² SCAG 2019, Local Profile Imperial County <https://www.scag.ca.gov/Documents/ImperialCountyLP.pdf>

³ SCAG 2019 Local Profile Los Angeles County <https://www.scag.ca.gov/Documents/LosAngelesCountyLP.pdf>

⁴ SCAG 2019 Local Profile Orange County <https://www.scag.ca.gov/Documents/OrangeCountyLP.pdf>

⁵ SCAG 2019 Local Profile Riverside County <https://www.scag.ca.gov/Documents/RiversideCountyLP.pdf>

⁶ SCAG 2019 Local Profile San Bernardino County <https://www.scag.ca.gov/Documents/SanBernardino.pdf>

⁷ SCAG 2019 Local Profile Ventura County <https://www.scag.ca.gov/Documents/VenturaCountyLP.pdf>

2.2.2 General Setting

Transportation Network

The region's transportation network comprises more than 9,000 miles of public transit, 5,000 miles of bikeways, 135,578 lane miles of roadways, and 94 miles of express lanes (see **Figure 2.0-3, Existing Transit Network, 2018**; **Figure 2.0-4, Existing Arterial System, 2016**; **Figure 2.0-5, Existing Regional Goods Movement System**; and **Figure 2.0-6, Major Airports in SCAG Region**). The Port of Los Angeles and Port of Long Beach are the largest container importers in the Western Hemisphere that contribute to our expansive goods movement system. The region's aviation system is one of the busiest in the world in terms of air passenger and cargo demand, with more than 110.2 million annual passengers and 3.14 million tons of cargo in 2017. Southern California features:

- 105 miles of heavy and light rail
- 534 miles of commuter rail (Metrolink)
- 9,000 miles of bus routes
- 5,075 miles of bikeways
- 135,578 total lane miles of roadways
- 94 miles of high occupancy toll (HOT) roads

Open Space and Natural Lands

The six counties within the SCAG region contain nearly 23 million acres of "open space" combined. These lands include the region's national forests, state parks, military installations, other public lands, and various private holdings. Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified. Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement for migratory and resident species alike. These barriers can affect all species from large mammals to small insects and can lead to significant degradation of ecosystem function and plant community composition.

A Habitat Conservation Plan (HCP) is a planning document required as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded. A Natural Community Conservation Plan (NCCP) is defined by CDFW as a plan for the conservation of natural communities that identifies

and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats. More than 20 million acres of open space within the SCAG region is currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Data from CDFW and USFWS show 27 plans with durations of 16–80 years providing conservation efforts nearly three million acres in the SCAG region. As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance and practices, and preserving important wildlife linkages.⁸

Housing

As of 2018, California ranks 49th of 50 states in the number of housing units per resident. With many strong indications, high demand for housing and short supply drives up rental and home prices throughout the state. Indeed, seven of the 10 most expensive housing markets in the United States are in California.

There are many contributors to the overall housing shortfall, such as zoning, costs and fees that prevent projects from being feasible, time delays, environmental litigation, community resistance to medium and high-density projects, and lack of local funding mechanisms. **Figure 2.0-7, Existing Land Use**, highlights SCAG's existing land use as of 2016. Additionally, population and employment growth in metropolitan areas in California has slowed in recent years because wages cannot compensate for the high cost of housing.

2.3 PROJECT BACKGROUND

The Plan was developed in accordance with applicable metropolitan planning requirements. The following discussion provides an overview of SCAG (responsible and lead agency) as well as the federal and state requirements associated with the preparation of an RTP and SCS.

Founded in 1965, SCAG is a federally designated Metropolitan Planning Organization (MPO) under Title 23, United States Code (USC) 134(d)(1),⁹ for the six-county region. SCAG is designated under California state law as a Council of Governments (COG) and a Regional Transportation Planning Agency (RTPA) for the six-county region. SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

⁸ SWCA Environmental Consultants, Biological Resources Report for the 2020-2045 RTP/SCS. October 2019

⁹ Federal Highway Administration. 2012. *Title 23, United States Code*. Available online at: <https://www.fhwa.dot.gov/map21/docs/title23usc.pdf>, accessed August 21, 2019.

As stated previously, SCAG develops long-range regional transportation plans including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations (RHNA) and assists in the development of the South Coast Air Quality Management Plans. In 1992, SCAG expanded its governing body, the Executive Committee, to a 70-member Regional Council to help accommodate new responsibilities mandated by the federal and state governments, as well as to provide more broad-based representation of Southern California’s cities and counties. With its expanded membership structure, SCAG created regional districts to provide for more diverse representation. The districts were formed with the intent to serve equal populations and communities of interest. Currently, the Regional Council consists of 86 members.

In addition to the six counties and 191 cities that make up SCAG’s region, there are six County Transportation Commissions that hold the primary responsibility for programming and implementing transportation projects, programs and services in their respective counties. Additionally, SCAG Bylaws provide for representation of Native American tribes and Air Districts in the region on the Regional Council and Policy Committees.

2.3.1 Federal and State Requirements

Fixing America’s Surface Transportation (FAST) and Moving Ahead for Progress in the 21st Century Act

Under the FAST (Fixing America’s Surface Transportation [Public Law 114-94]) Act and MAP-21 (Moving Ahead for Progress in the 21st Century Act [Public Law 112-141]), the U.S. Department of Transportation (USDOT) requires that metropolitan planning organizations, such as SCAG, prepare long-range RTPs and update them every four years if they are in areas designated as “nonattainment” or “maintenance” for federal air quality standards. Prior to enactment of MAP-21, the primary federal requirements regarding RTPs were included in the metropolitan transportation planning rules—Title 23 CFR Part 450 and 49 CFR Part 613. The FAST Act and MAP-21 make a number of changes to the statutes that underpin these regulations. Key federal requirements for long-range plans include the following:

- RTPs must be developed through an open and inclusive process that ensures public input; seeks out and considers the needs of those traditionally under served by existing transportation systems; and consults with resource agencies to ensure potential problems are discovered early in the RTP planning process;
- RTPs must be developed for a period of not less than 20 years into the future; RTPs must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity;

- RTPs must have a financially constrained element, transportation revenue assumptions must be reasonable, and the long-range financial estimate must take into account construction-related inflation costs;
- RTPs must include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- RTPs must include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
- RTPs may include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally developed measures;
- RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP) for ozone and other pollutants for which an area is not in attainment; and
- RTPs must consider planning factors and strategies in the local context.

Regional Transportation Plan Requirements

An RTP outlines the region's goals and strategies for meeting current and future mobility needs, providing a foundation for transportation planning and funding decisions by local, regional, and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. In addition, an RTP identifies the region's transportation needs, sets forth actions, programs, and a plan of projects to address the needs consistent with adopted regional strategies and goals, and documents the financial resources needed to implement the RTP. The process for development of the RTP takes into account all modes of transportation, accompanied by a continuing, cooperative, and comprehensive planning approach that is performance driven and outcome-based, consistent with the provisions of MAP-21 and the FAST Act.

The RTP must also comply with Section 65080 of the California Government Code. The state requirements largely mirror the federal requirements and require each transportation-planning agency in urban areas to adopt and submit an updated RTP to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) every four years. To ensure a degree of statewide consistency in the development of RTPs, the CTC, pursuant to Government Code Section 14522, adopted RTP Guidelines. The RTP Guidelines include a requirement for program-level performance measures, which include objective criteria that reflect the goals and objectives of the RTP. The RTP Guidelines are intended to assist MPOs with development of their RTPs to be consistent with

federal and state planning requirements. An RTP is used to guide the development of the Federal Transportation Improvement Program (FTIP), a federally mandated four-year program of all regionally important surface transportation projects and all projects that will receive federal funding, as well as other transportation programming documents and plans. Connect SoCal follows the 2017 RTP Guidelines, which were adopted on January 18, 2017.

Sustainable Communities Strategy Requirements

Pursuant to the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill (SB) 375), the SCS is a required component of the RTP. SB 375 directs the California Air Resources Board to set regional targets for reducing GHG emissions. The law establishes a “bottom up” approach to ensure that cities and counties are involved in the development of regional plans to achieve those targets. SB 375 requires that an MPO prepare and adopt an SCS that sets forth a forecasted regional development pattern that reduces GHG emissions associated with the land use and transportation network, measures, and policies. SB 375 is part of California’s overall strategy to reach GHG emissions reduction goals as set forth by Assembly Bill (AB) 32, Senate Bill (SB) 32, and Executive Orders S-03-05 and B-30-15. According to Section 65080(b)(2)(B) of the California Government Code (CGC), the SCS must:

- Identify existing land uses;
- Identify areas to house long-term population growth;
- Identify areas to accommodate an eight-year projection of regional housing needs;
- Identify transportation needs and the planned transportation network;
- Consider resource areas and farmland;
- Consider state housing goals and objectives;
- Set forth an integrated forecasted development pattern and transportation network that will reduce GHG emissions; and
- Comply with the federal Clean Air Act requirements for developing an RTP.

2.4 PURPOSE AND NEED FOR ACTION

Transportation projects for which federal approval is required must be listed in the RTP/SCS and FTIP. Such projects must comply with National Environmental Policy Act (NEPA), which requires the preparation of a statement of purpose and need in conjunction with environmental documents.¹⁰

¹⁰ Electronic Code of Federal Regulations. 2019. §1502.13 Purpose and need.

Although adoption of the Plan is not subject to NEPA, SCAG has included this statement of purpose and need to enable project proponents to discuss the purpose and need for their individual projects relative to the Plan.

The SCAG Regional Council has the responsibility for consideration of the Plan with substantial input from its member jurisdictions, agencies, and stakeholders. Since the Plan includes transportation improvements that may involve a federal action (such as the use of federal funds, right-of-way, permits and or leases), the requirement for environmental review under NEPA as set forth in 40 CFR Section 1502.13 may be triggered at the time that project-level design is initiated. Therefore, where determined appropriate by a Lead Agency undertaking a site or project-specific federal action evaluated in this PEIR at the programmatic-level of detail, this statement of purpose and need may be incorporated by reference in site- or project-specific NEPA documents as provided in 40 CFR § 1502.21.¹¹

The purpose of the Plan is to provide a clear, long-term vision of the regional transportation goals, policies, objectives, strategies, and investments along with the land use strategies for the SCAG region while at the same time providing strategies to meet greenhouse gas emissions reduction and air quality conformity requirements. The necessity for the Plan is driven by the need to plan for the region's changing socioeconomic, transportation, financial, technological, and environmental conditions. The Plan is also necessary to plan for improvements to the aging regional transportation system and to preserve its long-term viability in light of projected demographic growth.

2.5 PROJECT DESCRIPTION

The Connect SoCal Plan is an update to SCAG's 2016 RTP/SCS, which had been adopted by SCAG's Regional Council on April 7, 2016, and last amended in September 2018. Building upon the progress made since the 2016 RTP/SCS, Connect SoCal is a long-range visioning plan for the six-county SCAG region, taking into account its transportation needs, existing and projected land use patterns, and job growth. It highlights the existing land use and transportation conditions throughout the SCAG region, and forecasts how it will meet the region's transportation needs between 2020 and 2045. The Plan identifies and prioritizes expenditures of this anticipated funding for transportation projects of all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian, as well as aviation ground access. It also includes a set of visions, goals, objectives, policies and performance measures developed through public and stakeholder outreach sessions across SCAG's region.

More specifically, Connect SoCal includes strategies for accommodating projected population, household and employment growth in the SCAG region by 2045 as well as a transportation investment strategy for

¹¹ Electronic Code of Federal Regulations. 2019. *§1502.21 Incorporation by reference.*

the region. The Plan details how the SCAG region can achieve several outcomes essential to the success of the region's long-range transportation and land use goals. The Plan:

- Describes where and how the region can accommodate a 23 percent increase in projected households and 16 percent increase in jobs between 2020 and 2045;
- Details a regional transportation investment given \$633.9 billion in expected revenues from federal, state, regional and local sources over the next 25 years; and
- Complies with SB 375, the state's SCS law, which integrates land use and transportation planning and mandates both a reduction in greenhouse gas emissions from passenger vehicles (19% reduction for the SCAG region) and the provision of adequate housing for the region's 25-year projected population growth.

The Plan is constrained by expected transportation revenues, and identifies transportation and land use strategies to accommodate projected population, household and employment growth and improve the quality of life for existing and future residents.

2.5.1 Local Input and Public Outreach

Local Input Process: The most recent RTP/SCS for the SCAG region was adopted by SCAG in April 2016. State law requires that it is updated every four years. Connect SoCal is an update that builds upon the growth patterns and strategies developed in the 2016 RTP/SCS but with updated planning assumptions that incorporate key economic, demographic and financial trends from the last four years.

SCAG developed a "Bottom-Up Local Input and Envisioning Process," which assisted the agency in understanding as to what is happening at the local level – and formed the basis for projections and strategies in Connect SoCal. The local input process was approved and adopted by the SCAG Regional Council in October 2017.

SCAG held one-on-one meetings with all 197 local jurisdictions. In addition to seeking feedback on regional forecasts of population, household and employment growth, SCAG gathered data on land use, protected natural lands, farmland, flood areas and coastal inundation, regional bikeways, regional truck routes, planned major transit stops, high quality transit corridors, future transit priority areas, and other local data. In addition to the jurisdictions themselves, the data came from county assessors' offices, county transportation commissions, and state and federal partners.

Approximately 90 percent of local jurisdictions provided feedback on one or more data elements requested for local review. Collectively, these towns, cities and counties represent an estimated 94 percent

of the region's residents. SCAG staff also regularly convened a series of technical advisory groups that engaged local, state, and federal agencies in the transportation and sustainable communities planning process.

Coordination with County Transportation Commissions: SCAG worked closely with each of the six county transportation commissions (CTCs) throughout 2018 to update the list of major local transportation projects that were listed in the 2016 RTP/SCS. Each CTC in turn worked with their partner transportation agencies (including transit providers, rail operators, marine port and airport authorities and Caltrans District offices) to finalize a list of county-priority projects to submit to SCAG. This effort culminated in a comprehensive update to the capital list of projects, which numbers in the thousands. SCAG worked collaboratively with key stakeholders to identify additional regional projects that are intended to address challenges that are regional in nature.

Topic Specific Working Groups: SCAG has regularly convened topic-specific working groups, which bring together regional stakeholders to discuss the Plan's development and provide technical expertise. There were seven formal Regional Planning Working Groups, including Active Transportation, Environmental Justice, New Mobility, Natural Lands Conservation, Public Health, Sustainable Communities, and Transportation Safety. Additionally, SCAG convened an Emerging Technologies Committee (ETC). The ETC was formed to identify technological and societal trends (e.g. mobility as a service; zero emissions, automated and connected vehicles; smart cities and ITS; and the future of work) that may fundamentally alter the use of the region's transportation system and land use patterns. Emerging technology is a topic of intense speculation and interest at the regional planning level. Numerous popular press and academic articles have advanced the argument that the transportation sector is currently experiencing a period of changing transportation that has not been seen since the first decades of the previous century. Like that period, changes are now predominantly driven by private sector companies. In addition, the companies driving these changes are doing so through disruptive business models.

Outreach to Community Based Organizations: SCAG conducted a grassroots outreach initiative to engage diverse constituencies across Southern California. SCAG collaborated with 18 community-based organizations (CBOs) from across the region. These organizations assisted with workshop and survey outreach as well as hosting local gatherings for community members to provide input on Connect SoCal.

Survey Input: SCAG used an online platform, Neighborland, to host a survey to solicit input from Southern California residents about perspectives and priorities for various land use and transportation strategies. The survey included both multiple choice and open-ended questions. In total, more than 4,000

responses were collected from a broad sample of residents. The survey was made accessible via SCAG's Connect SoCal Website, at workshops, through CBOs and outreach.

Public Workshops: SCAG sought feedback from residents throughout the region through public engagement initiatives that featured 28 public workshops, an extensive advertisement campaign, a telephone town hall meeting and a widely distributed online survey. Public workshop attendees were asked to review four potential growth scenarios, each with a unique set of strategies. These included enhancing job centers, prioritizing connecting people to more transportation options, protecting natural lands and farmland areas, and planning for our region's future resiliency from natural disasters. More than 600 participants attended the 28 open-house workshops that took place between June and July 2019.

Public Meetings: Connect SoCal was developed through a four-year planning process involving policy discussions with local elected leaders who serve on SCAG's governing body, the Regional Council, and Policy Committees, which include the Energy and Environment Committee (EEC), Transportation Committee (TC) and the Community, Economic and Human Development Committee. Elected officials serving on these committees consist of representatives from county transportation commissions, tribal governments, as well as towns, cities and counties throughout the six-county region. The various components of Connect SoCal were reviewed by SCAG's Regional Council and policy committees in a series of public meetings.

Business Stakeholders: SCAG consulted with its business advisory group, the Global Land Use & Economic (GLUE) Council which formed in April 2009, to advise SCAG staff on the economic implications of the agency's planning activities and to better engage key public and private stakeholders. Membership of the GLUE Council consists of key business and organizational leaders from both the private and public sectors and serves as a resource for SCAG in reviewing regional plans and policy proposals. Over the past year, SCAG staff presented to the GLUE Council key components of Connect SoCal, and they have provided insight on the business, economic and job creation impact of the Plan.

Native American Consultation: In addition to board and committee representation, SCAG reached out to tribal governments during the Connect SoCal development process and conducted a workshop dedicated to Tribal Governments on May 28, 2019.

Pursuant to the *State CEQA Guidelines* and Assembly Bill 52 (Public Resources Code Sections 21080.3.1 and 21080.3.2), SCAG initiated consultation by letter on January 23, 2019 with tribal parties with respect to the PEIR for Connect SoCal to solicit input on how the plan may affect tribal cultural resources and to explore opportunities to avoid or mitigate significant adverse effects.

In summary, as a result of robust outreach, SCAG received 12,000 unique comments during the pre-draft phase of Connect SoCal.

2.5.2 Scenario Planning

To develop Connect SoCal, SCAG developed five unique scenarios (including Trend/Baseline) to illustrate alternative representations of the region in 2045. More specifically, each scenario was designed to explore and convey the impact of where the region would grow; to what extent the growth be focused within existing cities and towns, and how it would grow – the shape and style of the neighborhoods and transportation systems that would shape growth over the period. Descriptions of the five scenarios are as follows:

1. **Trend/Baseline:** This scenario reflects current land use trends carried forward into the future
2. **Existing Plan – Local Input:** This scenario reflects the land use and growth patterns as submitted to SCAG to envision the region in 2045. For transportation, projects planned by each CTC would occur throughout the region.
3. **Networked Destinations:** This scenario assumes that growth occurs near transit stops and new jobs locate in areas with easy access to frequent bus or rail service. Growth was prioritized in Transit Priority Areas (TPA), Livable Corridors, High Quality Transit Areas, (HQTAs) and Neighborhood Mobility Areas (NMA).
4. **Dynamic Centers:** This scenario assumes that growth occurs near existing job centers, transit stations and in walkable neighborhoods, where homes, jobs, shops and services are accessible without a car. Growth was prioritized in Job Centers, TPAs, NMAs, Livable Corridors and HQTAs.
5. **Accelerated Tomorrow (Unconstrained):** This scenario assumes that funding is available to invest in expanded bus and rail networks, and there is additional revenue to make existing transit service faster and more reliable. Additionally, new investments would occur in public infrastructure, which focus on active transportation and facilitate connections between transit, jobs, homes and local destinations. Growth was prioritized in TPAs, Livable Corridors, Job Centers, HQTAs and NMAs.

Planning Assumptions

Planning assumptions related to the development of the Plan include, demographic, economic, and financial considerations. A description of these assumptions is as follows:

Demographic Assumptions

On a national level, population growth has slowed, with the US Census Bureau projecting a decrease in national annual growth rate from about 0.75 percent in 2016 to approximately 0.40 percent by the 2040s. In the SCAG region, growth is similarly slowing down, from about 0.85 percent in 2020 to about 0.45 percent by 2045.

While growth rates are at a historic low; a gradual increase to the total population is expected. In the SCAG region, a 0.6 annual growth rate corresponds to about 114,000 new residents annually, or 3.2 million new residents between 2019 and 2045. At the county level, the region anticipates population increases of 9.1% to 35.4% for its six-county area (Table 2.0-1, 2019-2045 Population, Households and Employment Projections in the SCAG Region)

**Table 2.0-1
2019-2045 Population, Households, and Employment Projections in the SCAG Region**

County Name	Population 2019	Population 2045	Percentage Increase	Households 2019	Households 2045	Percentage Increase	Employment 2019	Employment 2045	Percentage Increase
Imperial	207,700	281,200	35%	58,000	92,500	59%	77,300	130,200	68%
Los Angeles	10,333,600	11,677,200	13%	3,409,500	4,124,500	21%	4,826,600	5,382,200	12%
Orange	3,250,100	3,534,600	9%	1,053,500	1,153,500	10%	1,765,600	1,980,400	12%
Riverside	2,462,600	3,251,700	32%	758,300	1,086,100	43%	812,800	1,102,700	36%
San Bernardino	2,217,100	2,815,500	27%	656,500	874,800	33%	828,300	1,063,800	28%
Ventura	868,600	947,500	9%	276,100	306,400	11%	346,400	389,400	12%
SCAG Region	19,339,700	22,507,200		6,211,900	7,638,600		8,657,138	10,048,500	

Source: SCAG 2019

As growth rates are declining, the population is also aging. From 2000 to 2016, the region's median age increased from 32.3 to 35.8. By 2045, this number is expected to reach 39.7.

From 2010 to 2019, an additional 1,288,228 people moved to Southern California. Los Angeles County had the largest share of population growth among the six counties in the SCAG region during this period, adding an additional 514,935 new residents (approximately 42 percent of the region's increase in population). Riverside County followed with the next largest share and experienced an increase of 272,951 new residents (nearly 22 percent of the region's increase in population).

Economic Assumptions

The distribution of income and wealth in Southern California has been changing gradually. Median incomes have increased in the SCAG region since the depths of economic recession of 2007 to 2009, but when adjusted for inflation, the median household income in the SCAG region is below what it was in 1989.

The region has experienced job growth since 2010, gaining 1.3 million jobs and cresting the pre-recession high of 8.1 million jobs reached in 2007. Meanwhile unemployment has dropped from a high of 12.4 percent in 2010 to 4.3 percent in 2018. However, an estimate of potential impacts of automation on regional employment by 2045 suggests that construction, repair, transportation, food preparation, sales, social services and office support occupations have the highest likelihood of automation/displacement. Today these industries together employ more than 3 million workers region wide.

Planning for more housing and jobs near transit was a strategy incorporated in SCAG's first SCS in 2012 and carried forward in the 2016 RTP/SCS with a focus on areas well served by transit. Between 2008 and 2016, nearly 50 percent of household growth and 44 percent of employment growth occurred within high-quality transit areas (i.e., the half mile surround rail transit stops or bus stops/corridors that have peak headways of 15 minutes or less) (**Table 2.0-2, Recent Growth Trends in SCAG Growth Priority Areas**). **Figure 2.0-8, SCAG Growth Priority Areas**, shows the location of these areas in the region. Between 2008 and 2016, less than six percent of household growth and less than five percent of employment growth occurred in open space areas.

**Table 2.0-2
Recent Growth Trends in SCAG Growth Priority Areas**

	Land Area		Share of Total Growth (2008-2016)		
	Acres	Percent	Population	Households	Employment
SCAG Region Total	24,717,287				
Growth Priority Areas Total	1,320,772	5.3%	64.4%	68.0%	77.3%
High-Quality Transit Areas (HQTAs) ¹	616,668	2.5%	44.3%	49.9%	44.2%
Transit Priority Areas (TPA) ¹	208,252	0.8%	19.8%	28.0%	19.1%
Specific Plans	592,819	2.4%	20.9%	21.8%	26.6%
Specific Plan / TPA ²	56,212	0.2%	7.1%	7.7%	8.9%
Job Centers	202,186	0.8%	13.8%	20.8%	28.1%
Neighborhood Mobility Areas	248,916	1.0%	23.6%	31.6%	24.0%
Livable Corridors ³	552,023	2.2%	38.0%	43.9%	49.9%
Constraint Areas Total⁴	18,840,937	76.2%	4.6%	5.9%	4.8%
Open Space ⁵	15,078,003	61.0%	2.7%	3.7%	1.1%
Farmland ⁶	2,593,038	10.5%	4.9%	5.6%	1.9%
Flood Hazard Areas ⁷	1,313,531	5.3%	18.0%	13.5%	17.2%
High Risk of Wildfire ⁸	4,401,328	17.8%	11.0%	11.2%	14.8%

Source: SCAG

¹ Extracted from draft 2045 plan year data of the Connect SoCal, 2020-2045 RTP/SCS

² Overlaps between specific plan boundaries and the 2045 Transit Priority Areas (TPA)

³ Using 0.5 mile buffers from the Livable Corridors

⁴ Including open space, military installations, and tribal lands

⁵ Including the California Protected Areas Database (CPAD) and the California Conservation Easement Database (CCED). Please note CPAD does not include: military lands used primarily for military purposes, tribal lands, private golf courses, and public lands not intended for open space.

⁶ Including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance and Grazing lands

⁷ Including the 100-year (1% annual chance of occurring) and 500-year (0.2% annual chance of occurring) flood zones

⁸ Including 'High' and 'Very High' wildfire hazard classifications

Financial Assumptions

In accordance with federal fiscal constraint requirements, Connect SoCal is a financially constrained Plan. Connect SoCal identifies the amount of funding that is reasonably expected to be available to build, operate, and maintain the region's surface transportation system through the forecast horizon year of 2045.

The financially constrained Connect SoCal includes both a "traditional" core revenue forecast comprised of existing local, state, and federal sources, and more innovative but reasonably available sources of revenue to implement a program of improvements.

The financial plan's forecast of core revenue totals approximately \$638.6 billion from both core and reasonably available resources. Local sources comprise 61 percent of the funding and the largest share of core revenues, followed by state sources which comprise 31 percent of revenue, federal sources comprise 8 percent of revenue.

As shown in **Table 2.0-3**, capital projects total \$287 billion in nominal dollars. Operating and maintenance (O&M) costs total \$316 billion, while debt service obligations total \$35.6 billion. Transit-related costs comprise the largest share of O&M costs for the region, totaling \$173.9 billion.

Table 2.0-3
Connect SoCal Expenditure (in Billions)

Capital Projects and Other Programs	\$287.0
Arterials	\$20.8
Goods Movement (including Grade Separations)	\$65.7
High-Occupancy Vehicle/Express Lanes	\$13.6
Mixed-Flow and Interchange Improvements	\$10.3
Transportation System Management (Including ITS)	\$13.7
Transit	\$66.8
Passenger Rail	\$53.2
Active Transportation	\$17.7
Transportation Demand Management	\$7.3
Other	\$18.1
Operations and Maintenance	\$316.0
State Highways	\$68.0
Transit	\$173.9
Passenger Rail	\$26.6
Regionally Significant Local Streets and Roads	\$47.5
Debt Service	\$35.6
Cost Total	\$638.6

Source: SCAG

Note: due to rounding, the total will not exactly match.

*Includes \$4.8 billion for active transportation in addition to capital project investment level of \$17.7 billion for a total of \$22.5 billion for active transportation improvements

**Includes Safety, Pooled Incentives, Mobility Equity Fund, Regional PEV Charger Program, and Others

**Table 2.0-4
Connect SoCal Revenue Sources**

Local	Sales Tax	\$210.1
	– Local Option Sales Tax Measures	\$172.6
	– Transportation Development Act (TDA)—Local Transportation Fund	\$37.6
	Transit Farebox Revenue	\$27.3
	Highway Tolls (in core revenue forecast)	\$32.7
	Mitigation Fees	\$2.5
	Other Local Sources	\$30.2
	Local Total	\$302.8
State	State Transportation Improvement Program (STIP)	\$5.6
	– Regional Transportation Improvement Program (RTIP)	\$4.2
	– Interregional Transportation Improvement Program (ITIP)	\$1.4
	State Highway Operation and Protection Plan (SHOPP)	\$63.0
	Highway Users Tax Account (HUTA)	\$36.7
	Road Maintenance and Rehabilitation Account (RMRA)	\$24.3
	State Transit Assistance Fund (STA)	\$14.2
	Cap-and-Trade Auction Proceeds	\$2.2
	Other State Sources	\$9.2
	State Total	\$155.4
Federal	Federal Transit	\$25.0
	– Federal Transit Formula	\$19.0
	– Federal Transit Non-Formula	\$6.0
	Federal Highway & Other	\$16.1
	– Congestion Mitigation and Air Quality (CMAQ)	\$5.3
	– Surface Transportation Block Grant (STBG)	\$7.5
	– Other Federal Sources	\$3.3
	Federal Total	\$41.1
New	Federal Gas Excise Tax Adjustment	\$2.7
	Mileage-Based User Fee (Replacement)	\$42.7
	TIFIA/RRIF Credit Assistance; Bond Proceeds	\$2.2
	Private Equity	\$6.3
	Local Road Charge Program	\$77.8
	Enhanced Infrastructure Financing District	\$3.0
	TNC Fee	\$4.7
New Revenue Total	\$139.4	
Revenue Total	\$638.6	

Source: SCAG Connect SoCal, 2019

Modeling

The CTC 2017 RTP Guidelines recommend that the largest metropolitan areas should build formal microeconomic land use models to analyze and evaluate proposed changes in land use, economic, and transportation system. SCAG uses Regional Travel Demand Model/Activity Based Model (ABM) and Scenario Planning Model (SPM) as an integrated model framework to evaluate the relationship of transportation and land use. This allows for analysis of how transportation projects affect the surrounding land use pattern, as well as how changes to household and employment locations affect transportation demand, and ultimately affect GHG emissions.

Regional Travel Demand Model / Activity Based Model (ABM)

SCAG is the primary agency responsible for the development and maintenance of travel demand forecasting models for the SCAG region. SCAG has been developing and improving these travel demand forecasting models since 1967. SCAG's Modeling Task Force, consisting of modeling technical peers from the various county and state agencies and private firms, meets every other month at SCAG to discuss regionally significant modeling projects and modeling issues, including the development, maintenance, and application of SCAG's Regional Travel Demand Model as well as the travel demand models used by other stakeholder agencies.

SCAG's Regional Travel Demand Model is an activity-based model that meets or exceeds the state of the practice. The Model meets all the requirements of the Transportation Conformity Rule, specifically 40 CFR 93.122(b)). The results from the Regional Travel Demand Model are input to the ARB's Emission Factors (EMFAC 2014) model for calculating regional emissions.

SCAG's regional transportation modeling area covers the entire SCAG region, including the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. This modeling area is divided into 11,267 Transportation Analysis Zones (TAZs) with an additional 40 external cordon stations, 12 airport nodes, and 31 port nodes for the Ports of Los Angeles and Long Beach. A comprehensive model validation was also performed to ensure the model properly replicates base-year (2016) travel conditions, which is the base year for Connect SoCal.

Scenario Planning Model (SPM)

SCAG's Scenario Planning Model (SPM) is a data management, land use planning and modeling tool built on the open source version of UrbanFootprint platform (UF 1.5), which was originally developed by Calthorpe Analytics in partnership with SCAG and other California Public Agencies. UF1.5 is available and free for public use, downloadable from California Strategic Growth Council's website. SPM enables

the creation and organization of local and regional data, plan and policies, facilitates scenario creation and editing and estimates a wide range of potential benefits resulting from alternative transportation and land use strategies.

SPM has been deployed as two separate web services: Data Management (DM) tool and Scenario Development and Analysis (SD) tool. SPM-DM provides a common data framework within which local planning efforts can be easily integrated and synched with regional plans. Using a variety of data management and review options, the user (local jurisdictions) can explore data, export attributes and edit configured layers. SPM-DM was released in November 2018 to all 197 local jurisdictions in the SCAG region in support of SCAG's local input and envisioning process for the Connect SoCal. To assist cities and counties in using the tool, a total of 21 hands-on training sessions in a classroom setting have been provided throughout the region. SPM-SD includes a suite of tools and analytic engines that facilitate scenario creation and editing with advanced analytic capabilities and allow meaningful comparison across different land use and transportation options. Starting with the 2016 RTP/SCS, SPM-SD has been used in providing directional and order-of-magnitude impacts of local land use and policy decisions that would assist in the development of regional plans and associated scenario analysis.

2.5.3 Goals and Guiding Principles

SCAG developed goals for Connect SoCal, which fall into four core categories: economy, mobility, environment and healthy/complete communities. The Plan lays out goals related to housing, transportation technologies, equity and resilience in order to adequately reflect the increasing importance of these topics in the region, and where possible the goals have been developed to link to potential performance measures and targets (see **Table 2.0-5**). The Plan's guiding policies magnify these goals, creating a specific direction for Plan investments (see **Table 2.0-6**).

**Table 2.0-5
Connect SoCal Goals**

Connect SoCal Goals	
1	Encourage regional economic prosperity and global competitiveness.
2	Improve mobility, accessibility, reliability, and travel safety for people and goods.
3	Enhance the preservation, security, and resilience of the regional transportation system.
4	Increase person and goods movement and travel choices within the transportation system.
5	Reduce greenhouse gas emissions and improve air quality.
6	Support healthy and equitable communities.
7	Adapt to a changing climate and support an integrated regional development pattern and transportation network.
8	Leverage new transportation technologies and data-driven solutions that result in more efficient travel.
9	Encourage development of diverse housing types in areas that are supported by multiple transportation options.
10	Promote conservation of natural and agricultural lands and restoration of critical habitats.

Source: SCAG

**Table 2.0-6
Connect SoCal Guiding Principles**

Connect SoCal Guiding Principals	
1	Base transportation investments on adopted regional performance indicators and MAP-21/FAST Act regional targets.
2	Place high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system.
3	Assure that land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities.
4	Encourage RTP/SCS investments and strategies that collectively result in reduced non-recurrent congestion and demand for single occupancy vehicle use, by leveraging new transportation technologies and expanding travel choices.
5	Encourage transportation investments that will result in improved air quality and public health, and reduced greenhouse gas emissions.
6	Monitor progress on all aspects of the Plan, including the timely implementation of projects, programs, and strategies.
7	Regionally, transportation investments should reflect best-known science regarding climate change vulnerability, in order to design for long-term resilience.

Source: SCAG

2.5.4 Performance Measures

Federal policy also requires that SCAG set performance measures and targets in Connect SoCal. As required under MAP-21, in 2016 and 2017 the FHWA issued national performance measures and guidelines for use in the setting of statewide and regional performance targets. The FHWA rule-making process established a four-year performance target setting and reporting cycle, with a two-year mid-term

progress evaluation point. SCAG coordinated closely with Caltrans in the establishment of specific performance targets for the state and for our region in the various transportation performance areas established under MAP-21. These targets provide quantifiable objectives to achieve each measure during the performance period.

The Plan has a number of performance measures that are closely tied to its vision, goals and guiding policies. These ensure that the implementation of the Plan moves the SCAG region closer to achieving these vision, goals and policies. Plan performance is measured under eight categories as shown in **Table 2.0-7, Connect SoCal Performance Measures**. These performance measures are built upon but updated from those developed for the 2016 RTP/SCS to ensure that there is consistency when tracking and assessing the region's performance and whether this is meeting and exceeding federal and state requirements. It is also intended to help quantify regional goals, estimate potential impacts of proposed investments, and evaluate progress over time. Recognizing that the proposed land use and transportation strategies are expected to have impacts beyond those that are exclusively transportation-related, the health outcome was first introduced in the 2012 RTP/SCS and was also addressed in the 2016 RTP/SCS. These health-related measures are tied with the proposed transportation investments in transit, and transportation, more walkable communities, and land use strategies, which focus new housing and employment in the region's High-Quality Transit Areas (HQTAs), livable corridors and neighborhood mobility areas.

As stated previously, the Plan is constrained by expected transportation revenues, household and employment growth. The Plan creates a list of transportation projects that are eligible for future funding but does not program funds to specific transportation projects (See **Appendix 2.0, Plan Project List**). While the Plan identifies transportation and land use strategies that accommodate expected growth and improve the quality of life for existing and future residents, it does not change local land use policies. Individual jurisdictions retain all local land use authority.

**Table 2.0-7
Connect SoCal Performance Measures**

Outcome	Performance Measures	Connect SoCal Goals
Location Efficiency	Share of regional household growth occurring in HQTAs	7, 9
	Share of regional employment growth occurring in HQTAs	1, 7
	Land consumption	7, 10
	VMT per capita	2, 5
	Average distance traveled for work and non-work trips	2, 5
	Percent of trips less than 3 miles	2, 5
	Work trip length distribution	2, 5
Mobility and Accessibility	Person delay per capita	2, 4
	Person hours of delay by facility type (mixed flow/ HOV/arterials)	2, 4
	Truck delay by facility type (highways/arterials)	1, 4
	Travel time distribution by mode	2, 8
	Transit mode share	4, 7
	Mean commute time	2, 8
Safety and Health	Collision fatality rate	2, 6
	Collision serious injury rate	2, 6
	Air pollution-related health measures	5, 6
	Physical activity-related health measures	6, 7
	Mode share for walking and biking	6, 7
Environmental Quality	Greenhouse gas (GHG) emissions reduction	5, 6
	Criteria pollutant emissions	5, 6
	Non-SOV mode share	2, 4
Economic Opportunity	New jobs supported by improved economic competitiveness	1, 4
	New jobs supported by transportation system investments	1, 3
Investment Effectiveness	Transportation system investment benefit/cost ratio	1, 3
Transportation System Sustainability	Cost per capita to preserve multimodal transportation system in current state of good repair	1, 3
	Interstate highway pavement condition	1, 3
	Non-interstate National Highway System pavement condition	1, 3
	National Highway System bridge condition	1, 3
Environmental Justice	Environmental Justice Performance Measures	6, 9

Source: SCAG 2019

2.5.5 Connect SoCal Document Framework

The Plan discusses how the SCAG region could grow over the next 25 years (to year 2045) and identifies transportation and land use strategies to enable a more sustainable, equitable, and economically vibrant future. The document updates the region's previous RTP/SCS, adopted in 2016. The document is organized into seven chapters as follows:

0. Making Connections – an introduction to the Plan.
1. About the Plan – a description of the Plan including goals and guiding principles and description of how the Plan was developed as well as identification of the laws that guide the Plan.
2. SoCal Today – identification of major trends, population and demographic changes, regional growth, a description of the transportation system (and mode choices), identification of farmland lost and at-risk, discussion of transportation safety, discussion of public health, discussion of access and mobility, funding, planning for disruption and moving towards solutions.
3. A Path to Greater Access, Mobility and Sustainability – a description of the proposed transportation strategies and sustainable communities strategies
4. Paying Our Way Forward – a description of how the transportation projects are anticipated to be financed.
5. Measuring Our Progress – identification of how the performance of the Plan is measured.
6. Looking Ahead – a summary of the challenges that lie ahead.

The Plan also includes the following supplemental technical reports:

- Active Transportation
- Aviation and Airport Ground Access
- Congestion Management (including a TDM Toolbox of Strategies)
- Demographics and Growth Forecast
- Economic and Job Creation Analysis
- Emerging Technologies
- Environmental Justice

- Goods Movement
- Highways and Arterials
- Natural and Farm Lands Conservation
- Passenger Rail
- Performance Measures
- Project List
- Public Health
- Public Participation and Consultation
- Sustainable Communities Strategy
- Transit
- Transportation Conformity Analysis
- Transportation Finance
- Transportation, Safety and Security

2.5.6 Land Use and Transportation Strategies

Since the Plan foresees regional growth along with transportation system improvements, it identifies land use and transportation strategies aimed at increasing transportation choices with a reduced dependence on automobiles and an increase growth in walkable, mixed-use communities and HQTAs. Increased choices in mobility, enhanced quality of life, and increasing sustainability practices could also lead to improved air quality in the region.

Land Use Strategies

The land use strategies included in the Connect SoCal Plan are built upon strategies listed in the 2016 RTP/SCS and are intended to increase travel mode choices, guide future land development, and improve air quality. It also attempts to balance the region's land use choices with its transportation investments.

The Plan includes land use strategies with the committed and projected transportation investments such that they emphasize system preservation and enhancement, active transportation, and land use integration. These strategies identify how the SCAG region can implement Connect SoCal and achieve related GHG reductions. It is important to note that SCAG does not have a direct role in implementing

the Sustainable Communities Strategy – neither through decisions about what type of development goes where, nor what transportation projects are ultimately built. Connect SoCal’s land use strategies are as follows:

1. Focus Growth Near Destinations and Mobility Options

- Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations
- Focus on jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets
- Plan for growth near transit investments and support implementation of first/last mile strategies
- Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses
- Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods
- Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations)
- Identify ways to “right size” parking requirements and promote alternative parking strategies (e.g. shared parking or smart parking)

2. Promote Diverse Housing Choices

- Preserve and rehabilitate affordable housing and prevent displacement
- Identify opportunities for new workforce and affordable housing development
- Create incentives and reduce regulatory barriers for building context-sensitive accessory dwelling units to increase housing supply
- Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions

3. Leverage Technology Innovations

- Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space
- Improve access to services through technology- such as telework and telemedicine as well as commuter incentives such as a “mobility wallet”, an app-based system for storing transit and other multi-modal payments
- Identify ways to incorporate “micro-power grids” in communities, for example solar energy, hydrogen fuel cell power storage and power generation

4. Support Implementation of Sustainability Policies

- Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions
- Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations
- Support cities in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects
- Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies
- Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region
- Continue to support long range planning efforts by local jurisdictions
- Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy

5. Promote a Green Region

- Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards

- Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration
- Integrate local food production into the regional landscape
- Promote more resource efficient development focused on conservation, recycling and reclamation
- Preserve, enhance and restore regional wildlife connectivity
- Reduce consumption of resource areas, including agricultural land
- Identify ways to improve access to public park space

Priority Growth Areas

Consideration of the Plan requires an understanding of several more localized geographies. Priority Growth Areas (PGAs) follow the principles of center-focused placemaking. Connect SoCal's PGAs – Job Centers, Transit Priority Areas (TPA), HQTAs, NMAs, and Livable Corridors – account for only five percent of region's total land area, but implementation of SCAG's recommended growth strategies will help these areas accommodate 76 percent of forecasted household growth and 86 percent of forecasted employment growth by 2045. This more compact form of regional development, if fully realized, can reduce travel distances, increase mobility options, improve access to workplaces, and conserve the region's resource areas.

Job Centers: Job centers are where regional strategies that support economic prosperity are identified. Job centers represent areas that have a significantly higher employment density than surrounding areas. Employment growth and residential growth are prioritized in job centers to leverage existing density and infrastructure. SCAG has identified 70+ job centers in the region (see **Figure 2.0-9, SCAG Region Proposed Job Centers**).

Transit Priority Areas: TPAs are PGAs that are within one half mile of existing or planned 'major' transit stops in the region (See **Figure 2.0-10, Transit Priority Areas**). A 'major' transit stop is defined as a site containing an existing or planned rail transit station, a ferry terminal served by either a bus or rail, transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. Although TPAs comprise less than one percent of Southern California's land area, around 35 percent of new households are projected to occur within these transit rich areas.

High Quality Transit Areas: HQTAs are corridor-focused PGAs within one half mile of an existing or

planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. HQTAs represent less than three percent of the region's acreage but are projected to accommodate nearly 55 percent of new households between 2016 and 2045. (See **Figure 2.0-11, High-Quality Transit Areas throughout the SCAG Region in 2045**) Infrastructure investments that support walkable, compact communities that integrate land use and transportation planning for a better-functioning built environment are essential within HQTAs. Active transportation and new developments should respond to the existing physical conditions of the surrounding area. Sensitively designed TODs can preserve existing development patterns and neighborhood character while providing a balance of modal and housing choices.

Neighborhood Mobility Areas: NMAs focus on creating, improving, restoring and enhancing safe and convenient connections to schools, shopping, services, places of worship, parks, greenways and other destinations (See **Figure 2.0-12, Neighborhood Mobility Areas**). NMAs are PGAs with robust residential to non-residential land use connections, high roadway intersection densities and low-to-moderate traffic speeds. NMAs can encourage safer, multimodal, short trips in existing and planned neighborhoods and reduce reliance on single occupancy vehicles. NMAs support the principles of center focused placemaking. Fundamental to neighborhood scale mobility in urban, suburban and rural settings is encouraging "walkability," active transportation and short, shared vehicular trips on a connected network through increased density, mixed land uses, neighborhood design, enhanced destination accessibility and reduced distance to transit. From 2016 to 2045, nearly 33 percent of new households are projected to be in NMAs. Although 38 percent of all trips made in the SCAG region are three miles or less, more than 78 percent of these short trips are made by driving.

Livable Corridors. Livable corridors are arterial roadways where jurisdictions may plan for a combination of the following elements: high-quality bus frequency; higher density residential and employment at key intersections; and increased active transportation through dedicated bikeways. Most Livable Corridors would be located within HQTAs (See **Figure 2.0-13, Livable Corridors**).

Transportation Strategies

Connect SoCal recognizes that the region can no longer afford to rely solely on expanding the transportation system to address the region's many changes and challenges. There is a need to use a comprehensive planning approach for a transportation system that focuses on preservation, sustainability, and productivity, as well as strategic expansion. Anticipated land use patterns as part of Connect SoCal provide a strategic opportunity to build a smart transportation system that is responsive to the region's changes and challenges. Connect SoCal includes proposed strategies for transportation

investments, totaling approximately \$638.6 billion (See **Table 2.0-3, Connect SoCal Expenditure [in billions]**). Proposed transportation strategies are as follows:

System Preservation. A top priority is to maintain and preserve the transportation infrastructure through a “Fix it First” principle. Anticipated funding provided by Senate Bill 1 offers an opportunity to strategically reinvest in the transportation network to realize an improvement in the conditions of the existing system. A key strategy for system preservation is to include preventative maintenance of roadways as part of project costs and work plans. The timeframe to perform preventative maintenance can be days, while construction of a new roadway can take years, causing more increased inconvenience and congestion on the network as residents use alternate routes not built for such demand. Connect SoCal allocates approximately \$68 billion over the plan period to ensure a well maintained and resilient system for generations to come.

Manage Congestion. Connect SoCal also seeks to optimize the existing transportation system to meet increased demand levels through the use of innovative strategies that leverage the existing transportation infrastructure. Physical solutions can include reversible lanes and policy solutions can include congestion pricing concept along with other solutions. Congestion strategies may include but are not limited to the following:

- *Congestion Management Process.* The Congestion Management Process (CMP) aims to provide effective management of the regional transportation system through monitoring and maintenance, demand reduction, analysis of local land use decisions, operational management strategies and strategic capacity enhancements. Federal regulations require the development, establishment and implementation of a CMP. Consistent with federal requirements, SCAG implements, monitors and evaluates these actions as part of Connect SoCal. These eight actions are as follows:
 - Develop Regional Objectives for Congestion Management
 - Define CMP Network
 - Develop Multimodal Performance
 - Collect Data/Monitor System Performance
 - Analyze Congestion Problems and Needs
 - Identify and Assess Strategies
 - Program and Implement Strategies
 - Evaluate Strategy Effectiveness

- **Congestion Pricing.** Connect SoCal identified three congestion pricing strategies, two of which were incorporated into the 2012 and 2016 RTP/SCS:
 - Develop a network of express lanes, that connects to existing express lanes in order to accommodate growing inter-county travel
 - Establish a mileage-based user fee to generate a funding source for aging infrastructure and construction of other travel options
 - Develop Cordon/Area Pricing which involves charging a variable or fixed fee to drive into or within a highly congested area.
- **Transportation Demand Management.** Transportation Demand Management (TDM) is a set of strategies that aims to reduce the demand for roadway travel, particularly from single-occupancy Vehicles (SOVs). TDM investments can reduce congestion and shift trips from SOVs to other modes in ways that often cost significantly less than roadway or transit capital expansion projects. TDM strategies add transportation choices that improve sustainability, public health and the quality of life by reducing congestion, air pollution and greenhouse gas emissions. When transit ridership, carpooling, biking and walking increase, the efficiency of the entire transportation system improves, bringing many benefits to the region. These benefits can justify relatively modest public expenditures on effectively implemented TDM programs. Connect SoCal commits \$7.3 billion through 2045 to implement TDM strategies throughout the region. There are three primary goals of this program:
 - Reduce the number of SOV trips and per capita VMT through ridesourcing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit
 - Redistribute or eliminate vehicle trips during peak demand periods by supporting telecommuting and alternative work schedules
 - Reduce the number of SOV trips through use of other modes such as transit, rail, bicycling, and walking, or other micro-mobility modes

Automated Vehicle Technology and Car to Car Communication Systems. Automated/Connected Vehicle technologies cover a range of advancements that allow vehicles to operate without drivers and coordinate with other vehicles. This includes on-board sensing capabilities, data integration and vehicle to vehicle communication.

Transit. Since 1991, the region has spent more than \$77 billion on transit (in 2016 dollars). This trend is expected to continue, as the combined costs for transit capital projects and operations and maintenance

(O&M) total nearly half of the investments in Connect SoCal. The Plan includes significant investment across all transit modes, with \$66.8 billion toward transit capital projects and \$173.9 billion for transit O&M. **Table 2.0-8, Selected Transit Capital Projects**, displays selected major transit capital projects included in Connect SoCal, while the map in **Figure 2.0-14, 2045 Plan Transit Network** and **Figure 2.0-15 Major Rail Projects**, display the 2045 Plan transit and rail network.

**Table 2.0-8
Selected Transit Capital Projects**

County	Project
Los Angeles	Airport Metro Connector
Los Angeles	BRT Connector – Orange/Red Line to Gold Line
Los Angeles	Crenshaw/LAX Transit Corridor
Los Angeles	Historic Los Angeles Streetcar
Los Angeles	East San Fernando Valley Transit Corridor
Los Angeles	Gold Line Extension Phase 2 to South El Monte
Los Angeles	Gold Line Foothill Extension – Azusa to Claremont
Los Angeles	Green Line Extension to Torrance
Los Angeles	LAX Automated People Mover
Los Angeles	North San Fernando Valley Transit Corridor
Los Angeles	Orange Line BRT Improvements
Los Angeles	Purple Line Westside Subway Extension to La Cienga, Century City, Westwood
Los Angeles	Regional Connector
Los Angeles	Sepulveda Pass Transit Corridor (Phase 2)
Los Angeles	Vermont Transit Corridor
Los Angeles	West Santa Ana Branch Transit Corridor
Los Angeles	Green Line Extension to Norwalk/Santa Fe Springs Metrolink Station
Los Angeles	Red Line Extension to Hollywood Burbank Airport
Los Angeles	Slauson Light Rail – Crenshaw/LAX Transit Corridor to Blue Line
Orange	OC Streetcar
Orange	OC Transit Vision
Riverside	Rapid Commuter Corridor From Parris To San Jacinto
Riverside	RapidLink Service – Riverside, Moreno Valley, Perris
Riverside	Coachella Valley BRT
San Bernardino	Foothill/San Bernardino BRT
San Bernardino	Gold Line Extension to Montclair
San Bernardino	Passenger Rail Service from San Bernardino Metrolink to Ontario Airport
San Bernardino	Redlands Passenger Rail
San Bernardino	West Valley Connector Phase I

Source: SCAG Connect SoCal 2019

Micro-Transit. Micro-transit is more flexible than traditional bus service in that it either uses dynamic routing, smaller vehicles or on-demand service that allows greater efficiency and convenience. Some micro-transit services exist in Southern California. The vast majority of transit riders could benefit from micro-transit.

Passenger Rail. Connect SoCal strategies for passenger rail in the SCAG region consists of four main elements:

- **Grow Ridership:** Although ridership on commuter and intercity rail services has steadily grown over the last two decades, there is still tremendous potential to significantly increase ridership in the region.
- **Provide More Frequent and New Services:** Providing more frequent rail service will attract new riders to passenger rail. Currently, commuter rail service in Southern California is much less frequent than commuter rail services elsewhere in the nation. There are also several unserved passenger rail markets that would greatly benefit from the establishment of new rail service.
- **Improve Connectivity:** While progress has been made in connecting passenger rail services to other existing transit in our region, more needs to be done to coordinate schedules and connections. Also, more progress must be made in first/last mile connections to rail stations, and station area planning and transit-oriented development (TOD).
- **Secure Funding:** New funding opportunities have been created since the 2016 RTP/SCS, such as the first dedicated source for rail operations at the state level. However, passenger rail funding in the region is still incremental in nature and to grow ridership via increased service levels, more long-term state and federal financing needs to be identified.

Active Transportation. Increasing the number of people walking and bicycling and decreasing the number of people driving will improve health outcomes and reduce greenhouse gas emissions in the region. Connect SoCal is expected to increase the number of people making active transportation trips by more than two million, increasing the mode share from 8.3 percent in 2016 to 10.4 percent in 2045. In order to achieve these outcomes, investments will be required to implement a variety of strategies.

Strategies to achieve Connect SoCal goals related to active transportation address planning, policy making and implementation for both short and regional trips. Additionally, they are designed to improve environmental justice outcomes and enhance the safety and comfort of people walking and bicycling. Many of these strategies should be implemented concurrently, as improvements to short trips, for example, do not preclude strategies to improve safety or address environmental justice, and vice versa.

Active Transportation strategies are grouped into eight categories that address trip type as well as a range of regional priorities. Specific details on the Active Transportation Strategies highlighted below can be found in the Active Transportation Technical Report.

- Environmental Justice
- Short Trips
- Regional Trips
- Planning, Data Collection and Technology
- Micro-mobility
- Complete Streets
- Engagement
- Safety

Transportation Safety. Connect SoCal prioritizes the safety and mobility of the region's residents, including drivers and passengers, transit riders, pedestrians, and bicyclists. SCAG's Safety strategies are largely grounded in the State's Strategic Highway Safety Plan (SHSP) that helps member agencies interested in pursuing safety initiatives and strategies at the local level. SCAG outlines detailed strategies and actions that local jurisdictions and county transportation commissions can undertake to enhance safety in our region in the transportation safety and security report. The strategies are based on the SHSP and include:

- Reduce aggressive driving and speeding
- Improve safety for aging populations
- Improve bicyclist safety
- Improve commercial vehicles safety
- Ensure drivers are licensed
- Improve emergency response services
- Improve research and data collection
- Reduce impaired driving fatalities
- Reduce distracted driving

- Improve safety at intersections
- Reduce the occurrence of lane departure fatalities
- Improve motorcycle safety
- Improve occupant protection by increased use of seat belts and child safety seats
- Improve pedestrian safety
- Improve work zone safety
- Improve safety for young drivers

Highway and Arterial Network. Connect SoCal emphasizes working with partner implementing agencies to prioritize projects that preserve and optimize the existing highway and arterial network. A sample of major committed projects included in Connect SoCal are highlighted in **Figure 2.0-16, Major Highway Projects**, **Figure 2.0-17, Major HOV Projects**, and **Table 2.0-9, Sample Major Highway Projects Committed by the Counties**. Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll lanes and Express/HOT lanes. The complete list of projects can be found in the **Appendix 2.0, Plan Project List**. The Highway and Arterial improvements in Connect SoCal are guided by the following framework and guiding principles:

- Protect and preserve what we have first, supporting 'Fix it First' principle, including the consideration of life cycle costs beyond construction
- Support continued system preservation funding and augment as necessary
- Focus on achieving maximum productivity through strategic investments in system management and demand management
- Focus on adding capacity primarily (but not exclusively) to:
 - Close gaps in the system
 - Improve access where needed
- Support policies and system improvements that will encourage the seamless operation of our roadway network from a user perspective
- Assure that any new roadway capacity project is developed with consideration and incorporation of congestion management strategies, including demand management measures, operational improvements, transit and ITS, where feasible

- Focus on addressing non-recurring congestion with new technology
- Support ‘complete street’ opportunities where feasible and practical

**Table 2.0-9
Sample Major Highway Projects Committed by the Counties**

	County	Route	Description	Completion Year	Project Cost (\$1,000's)
Mixed-Flow Lanes	Imperial	SR-111	Widen and improve to six-lane freeway with interchanges at Heber, McCabe, and Jasper and overpass at Chick Rd.	2030	\$999,136
	Los Angeles	SR-57/SR-60	Improve the SR-57/SR-60 interchange.	2028	\$300,000
	Orange	SR-55	Add one mixed-flow lane in each direction and fix chokepoints from I-405 to I-5 and add one auxiliary lane in each direction between select on/off ramps and operational improvements through project limits.	2023	\$327,363
	Orange	SR-91	Add eastbound mixed-flow lane from SR-57 to SR-55, add one westbound mixed-flow lane from Kraemer to State College, improve interchanges and merging from Lakeview to Raymond, and auxiliary lanes in certain segments.	2030	\$456,190
	Orange	I-405	Add one mixed-flow lane in each direction from I-5 to SR-55.	2034	\$190,000
	Orange	I-405	Add one mixed-flow lane in each direction, convert existing HOV lane to HOT lane, add one additional HOT lane in each direction from SR-73 to I-605.	2026	\$1,900,000
	Ventura	SR-118	Add one lane each direction from RT-23 to Tapo Canyon Rd.	2031	\$216,463
Express Lanes	Los Angeles	I-405	Add I-405 Express Lanes from I-105 to I-110.	2028	\$71,560
	Los Angeles	I-405	Add -405 Express Lanes from I-110 to LA/Orange Country Line.	2028	\$110,390
	Los Angeles	I-405	Add I-105 Express Lane from I-405 to I-605	2029	\$228,500
	Los Angeles	I-405	Sepulveda Pass Transit Corridor (Ph 1) with Express Lanes.	2026	\$310,500
	Los Angeles	I-10	Add I-10 Express Lanes from I-605 to LA/San Bernardino County Line.	2028	\$196,840
	Los Angeles	I-405	Add I-405 Express Lanes from I-10 to I-105.	2028	\$70,880
	Los Angeles	I-605	I-605 Express Lanes from I-105 to Orange County Line.	2031	\$100,850
	Riverside	I-15	Add two Express Lanes in each direction from Cajalco Rd to SR-74. Also add one southbound auxiliary lane from Cajalco Rd to Weirick Rd.	2028	\$544,000
	San Bernardino	I-15	Add two Express Lanes in each direction from I-215 to US-395	2040	\$687,994
	San Bernardino	I-15	Add one Express Lane in each direction from US-395 to High Desert Corridor (Segment 5)	2045	\$194,662

	County	Route	Description	Completion Year	Project Cost (\$1,000's)
HOV Lanes	Los Angeles	SR-14	Add 1 HOV lane each direction from Ave. P-8 to Ave. L	2027	\$120,000
	Los Angeles	RT-71	Add one HOV lane and one mixed-flow lane from Rt-10 to SB County Line.	2028	\$326,392
	Riverside	I-15	Add one HOV lane in each direction from SR-74 to I-15/I-215 interchange.	2039	\$375,664
	San Bernardino	I-210	Add one HOV lane in each direction from I-215 to I-10.	2045	\$178,780
	San Bernardino	I-215	Add one HOV lane in each direction from SR-210 to I-15.	2035	\$249,151
	Ventura	US-101	Add one HOV lane in each direction from LA/VEN County Line to SR-33.	2040	\$700,000

Source: SCAG Arterials Report, 2019

Regional Express Lane Network. The regional express lane network included in Connect SoCal builds on the success of the I-10 and I-110 Express Lanes in Los Angeles County and the recent extension of the SR-91 Express Lanes between Orange and Riverside Counties. Additional efforts underway include planned express lanes on the I-105 in Los Angeles County, the I-15 in Riverside County, the I-15 and the I-10 in San Bernardino County and the I-405 in Orange County and Los Angeles County. **Figure 2.0-18, Planned Regional Express Lane Network**, display the segments in the proposed regional express lane network.

Goods Movement. SCAG has developed key strategies to realize a regional vision that maintains regional economic competitiveness, promotes job creation and retention, increased freight mobility and safety, and mitigating environmental impacts. Specific details of goods movement challenges and strategies can be found in the Goods Movement Technical Report. Key strategies include:

- **Infrastructure Investments to Improve Freight Mobility.** Capturing the benefits that accompany goods movement means ensuring that regional businesses have access to and increased mobility on key goods movement corridors and networks. Improving efficiency on the transportation system will help contain rising costs of goods and services that often pass on to consumers. Connect SoCal identifies a significant number of infrastructure investments to assure that the region continues to be the leading trade gateway in the U.S. It does this by supporting physical improvements in marine terminals, highways, intermodal terminals, railroad mainlines, access routes, airports and international land border crossings that make up the goods movement network.
- **Last-Mile Freight.** Last-mile delivery represents the final leg for goods to customers. These deliveries happen in complex environments, including high-density regional locations, and they involve sophisticated interactions among physical infrastructure, and often compete for limited public space

with other modes. Ensuring that freight is properly included in policy considerations and street design necessitates tailored and nuanced strategies involving multidisciplinary approaches as identified in Connect SoCal.

- **Workforce Development.** Changing supply chains, automation and new technologies, and increasingly competitive wages from other sectors, will place growing pressure on goods movement related businesses to find qualified workers without raising costs and reduce the availability of jobs that have traditionally provided well-paying jobs to lower-skilled workers. Connect SoCal supports regional programs that raise awareness of the issue, reposition the image of goods movement jobs to reflect career mobility, promote increased participation by younger workers, and improve access for workers.
- **Truck Bottleneck Relief Strategy.** Connect SoCal identifies 48 truck bottlenecks in the region and allocates an estimated \$5 billion toward strategies that relieve them, such as:
 - Ramp metering
 - Extending merging lanes
 - Improving ramps and interchanges
 - Adding auxiliary lanes
- **Industrial Warehouse & Distribution Centers.** SCAG will continue efforts to provide the most updated data on industrial warehouse building square footage and conduct further analyses to better reflect changes in industrial land uses, truck industry service types, and equipment usage for truck terminals due to e-commerce. This includes consideration of new area sub-category classifications such as seaport and air cargo terminals, and rail intermodal and classification yards. By further understanding industrial facilities, SCAG will be more equipped to explore strategies that support the effective integration between goods movement needs and regional land use patterns.
- **Goods Movement Environmental Strategy.** Connect SoCal proposes an environmental strategy to address the air quality impacts of goods movement, while also allowing for the efficient and safe movement of goods throughout the region. A critical component of this strategy is the integration of advanced technologies that have benefits such as air quality improvements, energy security, and economic growth opportunities. Connect SoCal articulates a process to accelerate the development and deployment of effective technologies, along with key action steps, to help the region reduce dangerous pollutants as much as possible. While this plan focuses on getting cleaner vehicles on the road quickly, this must be done with full life-cycle consideration of production, use and disposal

impacts. This plan reaffirms zero and near-zero emission technologies as a priority, describes progress to date, and outlines a framework and key action steps to reach that goal.

Aviation. SCAG, by definition, is primarily a regional surface transportation planning agency. Therefore, SCAG is focused on air passenger and cargo activity from the perspective of how the traffic coming and going from the airports affects the region's roads, highways, and transit systems, and how to improve ground transportation access to the airports. On a basic level, SCAG maintains an updated list of airport ground access improvements. However, SCAG has and will continue to play a role in terms of aviation systems research, planning, and analysis, as well as encouraging collaboration and communication amongst the region's aviation stakeholders. SCAG's aviation strategies include but are not limited to:

- Work with airports and transportation agencies on airport ground access projects
- Effective analysis and planning
- Ongoing communication and collaboration between airports, transportation agencies and other government agencies.

Emerging Technologies. SCAG recognizes that many new technologies provide consumer solutions and have made inroads in public acceptance due to advancements in smartphones, mobile banking, navigational apps and social networking. Improvements in regional mobility will therefore be derived from how technology is used rather than from any individual technological development. Moreover, strategies to use the benefits of emerging technologies to advance Connect SoCal goals should be viewed through the lens of improving health, safety, equity and mobility outcomes.

2.5.7 Public Health

The role of transportation and land use decisions on public health outcomes has been increasingly recognized by health advocates, planners, and transportation providers. Improving air quality has a direct impact on public health outcomes. Public health in the SCAG region is influenced by the Plan's impact on the area's air emissions levels and the exposure of the population to those emissions, as well as the opportunities for physical activities and recreation uses. The transportation and land use strategies included in the Plan are expected to improve public health outcomes across the region and to improve the quality of life for SCAG area residents. Thus, the Plan highlights many of the benefits for improving health outcomes and present opportunities to ensure that future projects equitably benefit all population groups in the region. Proposed transportation and land use strategies such as first mile/last mile improvements, regional bikeways and Safe Routes to School programs, are anticipated to increase the number of short trips and result in increased physical activity benefits. Including health-related measures

as part of the Plan therefore helps build an ongoing monitoring of the Plan's performance on public health.

Public health analysis under the Plan focuses on providing up to date public health data to support this analysis. Thus, the Plan has developed a framework to promote health and prolong life among the region's population by enhancing the social determinants or the circumstances in which people are born, grow up, live, work, play, and age. Economic opportunity, government policies, and the built environment play a role influencing public health outcomes, so are social determinants of health, including social and community environment, health and health care, neighborhood and built environment, education, and economic stability. The Plan, therefore, proposes seven focus areas that align with its goals to improving public health. These include access to essential destinations, air quality, climate resiliency, economic wellbeing, physical activity, housing, and transportation safety.

2.6 INTENDED USES OF THE PEIR

In compliance with the CEQA (Pub. Resources Code, Section 21000 et seq.), this PEIR describes the potential environmental impacts of the Plan. This PEIR is designed to fully inform SCAG's Regional Council, as well as responsible agencies, trustee agencies, interested agencies/organizations and persons, and the general public of the potential environmental effects of the proposed project and identified alternatives. SCAG is the Lead Agency for environmental review of this PEIR and intends to use this PEIR as part of its review and approval of the Plan.

While individual transportation projects are included in the Plan, this PEIR is programmatic in nature and the analysis considers impacts that would reasonably be expected in conjunction with the transportation investments and land use development patterns envisioned as part of the Plan; the potential for significant and unavoidable impacts after the consideration of feasible mitigation measures; and a range of feasible alternatives. Project-level analysis will be prepared by implementing agencies, serving as a lead agency under CEQA, with the authority and principal responsibility for approving or carrying out the individual projects. These agencies include the six counties and 191 cities in the region. Other project implementing agencies may include public transit providers, other public agencies such as air districts, Native American tribes, colleges and university transportation providers, and Caltrans among others.

It is the intent of SCAG that lead agencies and others use the information contained within the PEIR in order to "tier" subsequent environmental documentation of projects in the region. Such projects may include:

- transportation projects consistent with the SCS;

- planning projects consistent with the SCS (e.g., General Plans, Specific Plans, etc.); and
- development projects including residential, mixed-use, employment center and transit priority projects consistent with the SCS.

As described in more detail in **Chapter 1.0, Introduction**, for projects that may be eligible for CEQA streamlining, applicable mitigation measures from this PEIR can and should be incorporated into those projects as feasible and appropriate.

List of Permits or Other Approvals Required to Implement the Project

In order to implement the Plan, after certification of the PEIR, it must be approved by SCAG's Regional Council. Then, Connect SoCal requires a conformity determination under the CAA section 176(c). The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) make the final determination of conformity on the Regional Transportation Plan elements. A FHWA/FTA air quality conformity determination for transportation (Conformity) is required for the Plan pursuant to the Environmental Protection Agency's (EPA) Transportation Conformity Rule, 40 CFR Parts 51 and 93, and the United States Department of Transportation's Final Rule on Statewide and Metropolitan Planning, 23 CFR Part 450. The conformity analysis that is submitted must indicate that all air quality conformity requirements have been met. Based on review by FHWA and FTA, and after consultation with the EPA Region 9 office, FHWA/FTA will make a finding that the Plan conforms to the applicable State Implementation Plan in accordance with the provisions of 40 CFR Parts 51 and 93.

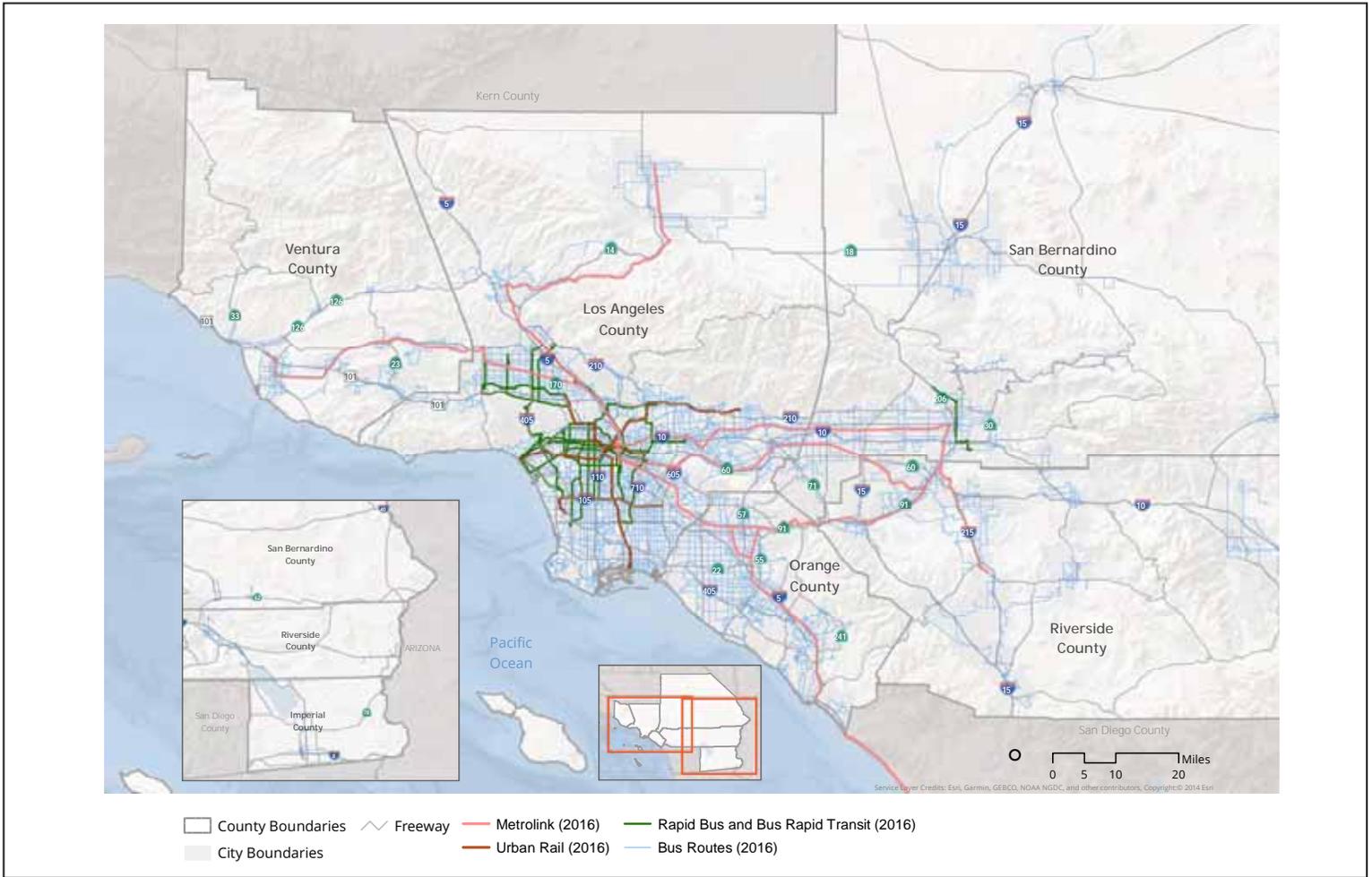
Furthermore, under SB 375, the Plan is subject to review and approval by the California Air Resources Board (CARB). Specifically, the SCS component will be reviewed by CARB to determine whether the adopted SCS, if implemented, would meet the region's 2035 19 percent per capita greenhouse gas reduction target.

List of Environmental Review and Consultation Requirements

Federal consultation requirements include: 1) a process involving the MPO, state and local air quality planning agencies, state and local transportation agencies, the U.S. EPA, and the U.S. Department of Transportation; and 2) a proactive public involvement process that provides opportunity for public review and comment by, at a minimum, providing reasonable public access to technical and policy information considered by the agency.

SB 375 requires consultation with stakeholders, including affordable housing advocates, transportation advocates, neighborhood and community groups, environmental advocates, homebuilder

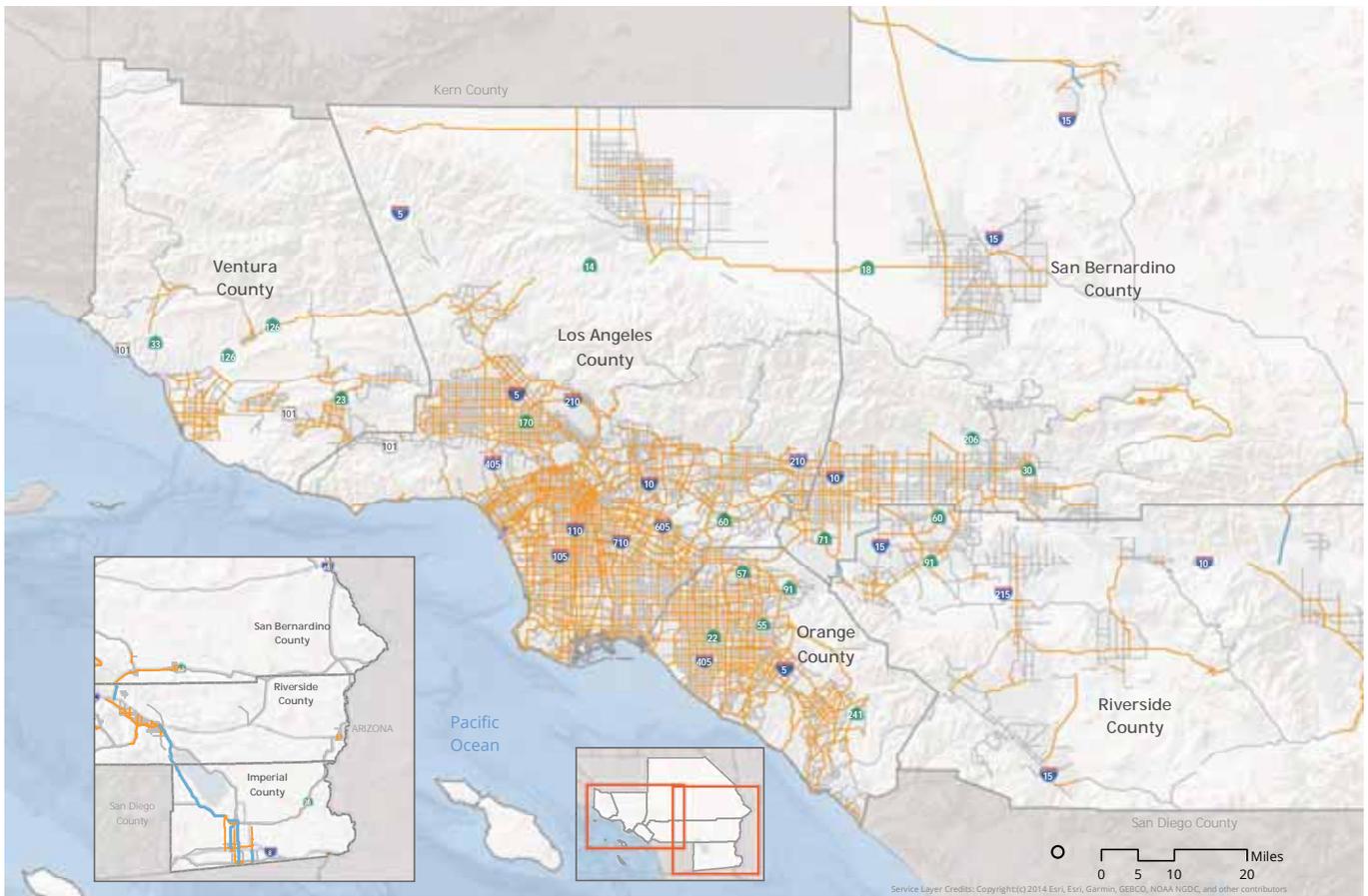
representatives, broad-based business organization, landowners, commercial property interests, homeowners associations, congestion management agencies, transportation agencies, local agency formation commission, and members of city councils and boards of supervisors.



SOURCE: SCAG, 2019

FIGURE 2.0-

Existing Transit Network (2018)



— Expressway / Parkway
 — Principal Arterial
 — Minor Arterial

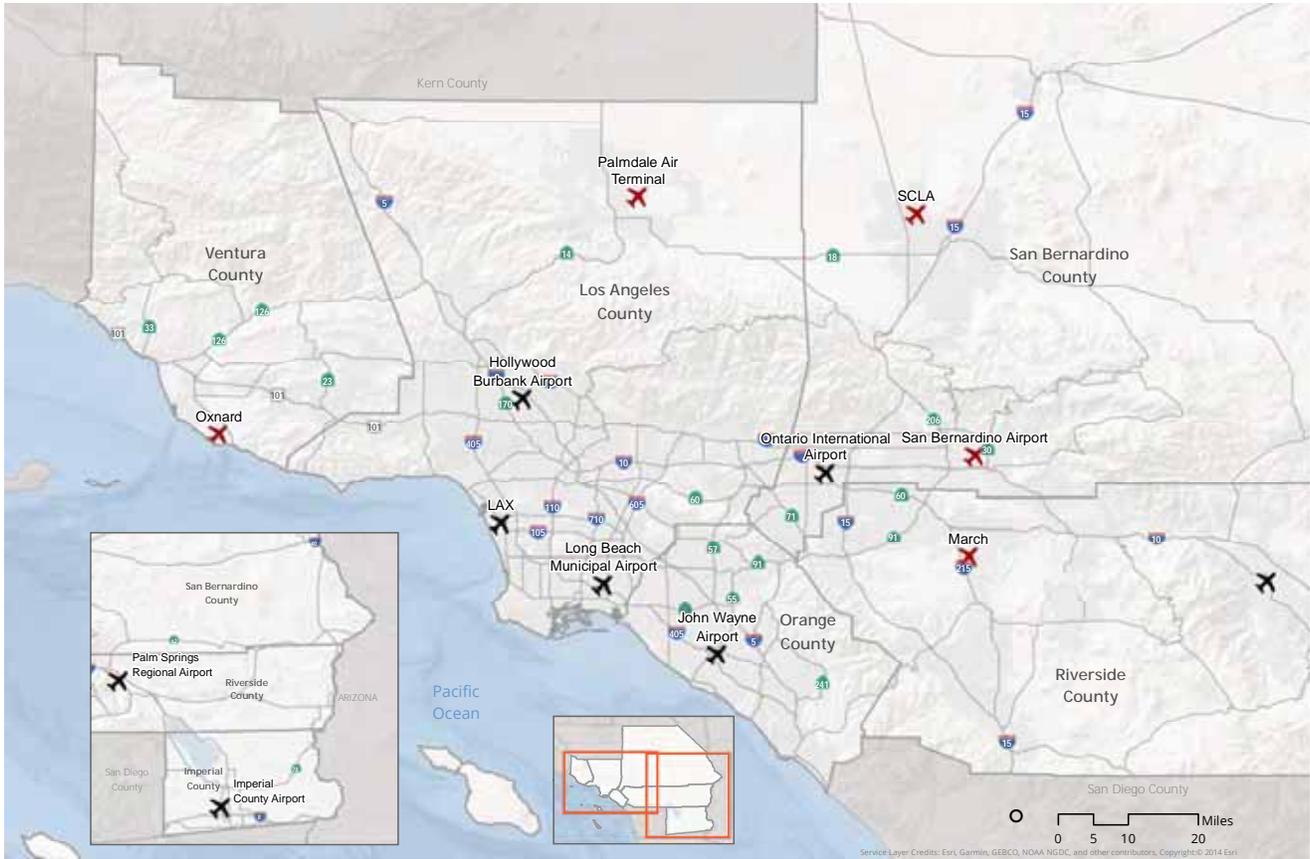
SOURCE: SCAG, 2019

FIGURE 2.0-

Existing Arterial System (2016)



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Legend
 □ County Boundaries ■ City Boundaries ~ Freeway ⊗ Commercial Service Airport ⊗ Reliever Airport

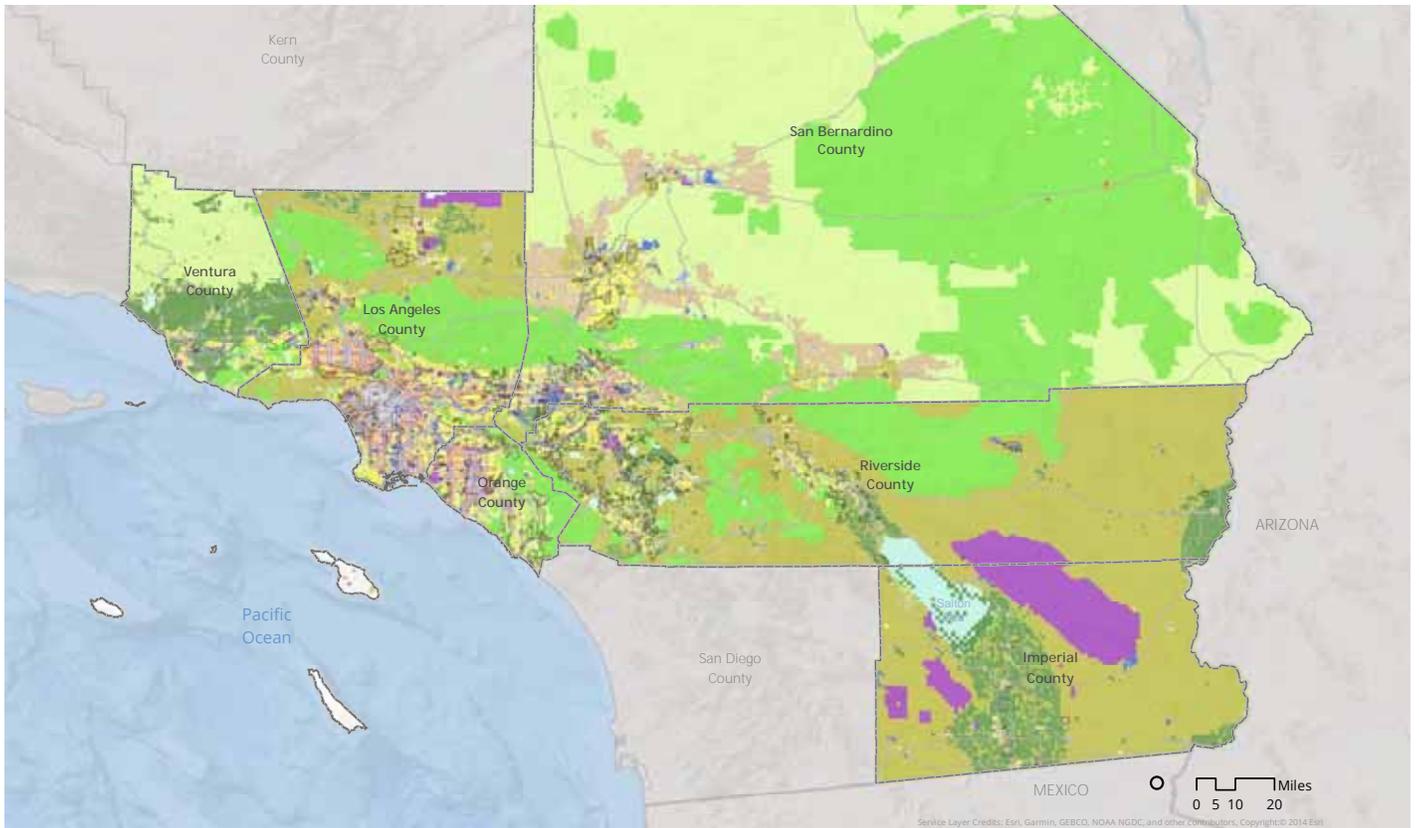
SOURCE: SCAG, 2019

FIGURE 2.0-

Major Airports in SCAG Region



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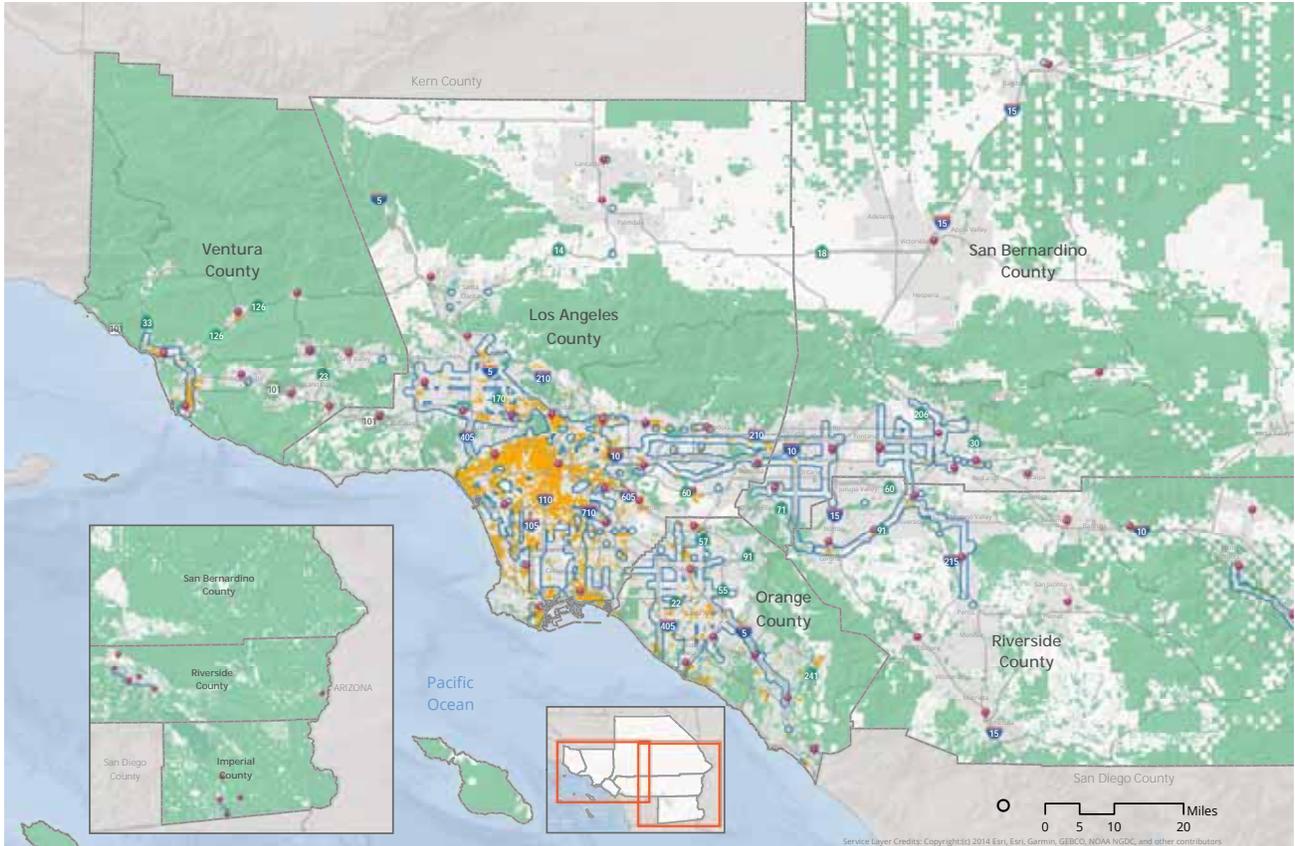


- | | | | | | |
|---------------|--------------------------------|-------------------------|---|-------------|---------------|
| Specific Plan | Single-Family Residential | General Office | Industrial | Agriculture | Undevelopable |
| TPA (2016) | Multi-Family Residential | Commercial and Services | Transportation, Communications, and Utilities | Vacant | Unknown |
| HQTA (2016) | Mobile Homes and Trailer Parks | Facilities | Mixed Commercial and Industrial | Water | |

SOURCE: SCAG, 2019

FIGURE 2.0-

Existing Land Use



Priority Growth Areas vs. Regional Growth Constraints

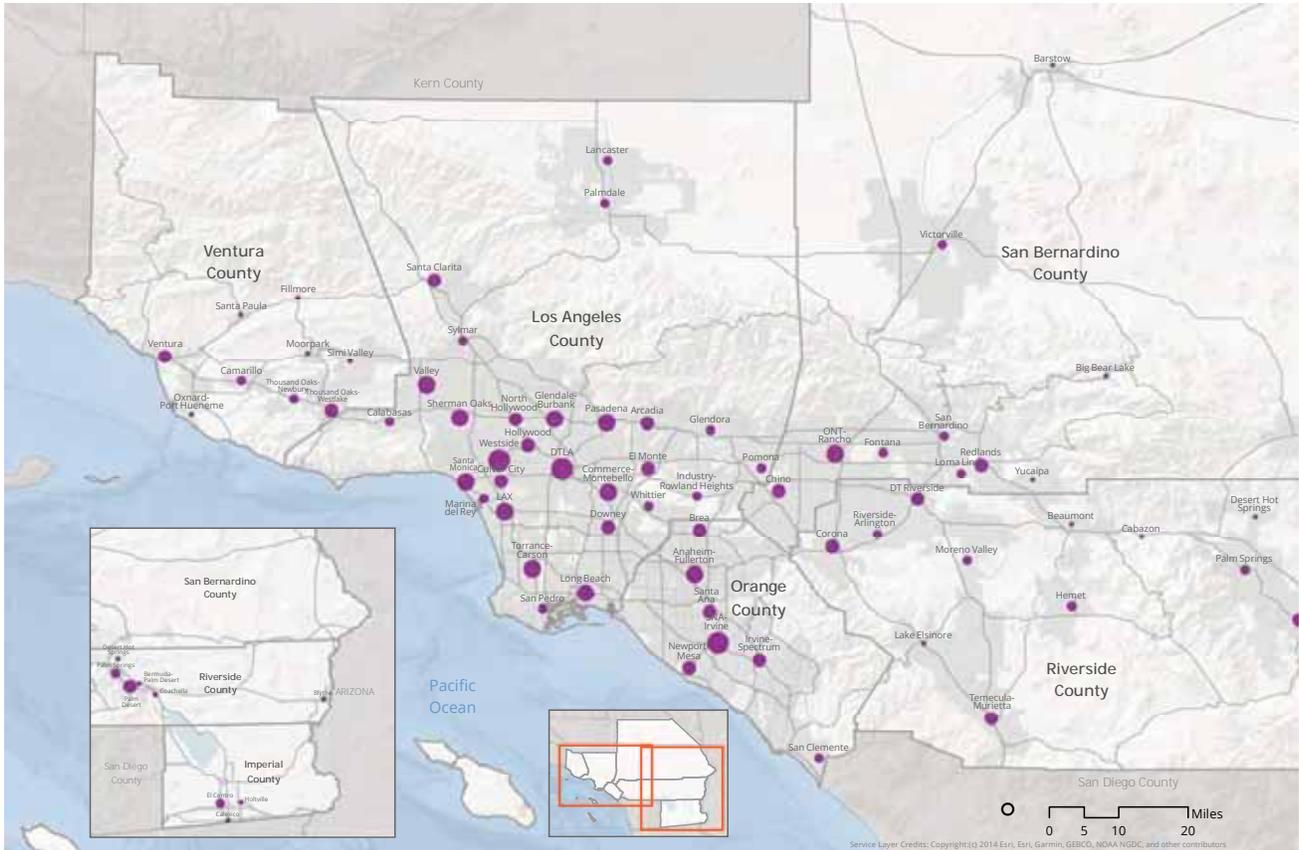
- Job Center
- Neighborhood Mobility Areas
- ▭ High Quality Transit Area
- Regional Growth Constraints

Note: SCAG utilized locally informed data elements to determine areas that ought to be precluded from growth (i.e. Absolute Growth Constraints - Tribal Lands, Military, Existing Open Space, Conserved Land, 2 ft Sea Level Rise, and Agriculture in Unincorporated Counties).

SOURCE: CalBRACE, California Department of Conservation, CPAD, CCED, County Transportation Commissions, SCAG, 2019

FIGURE 2.0-

SCAG Growth Priority Areas



SCAG Region Proposed 2020 RTP/SCS Job Centers (Total Employment)

- Less than 10,001 (17)
- 10,001 - 25,000 (22)
- 25,001 - 50,000 (19)
- 50,001 - 150,000 (11)
- More than 150,000 (3)

Notes:

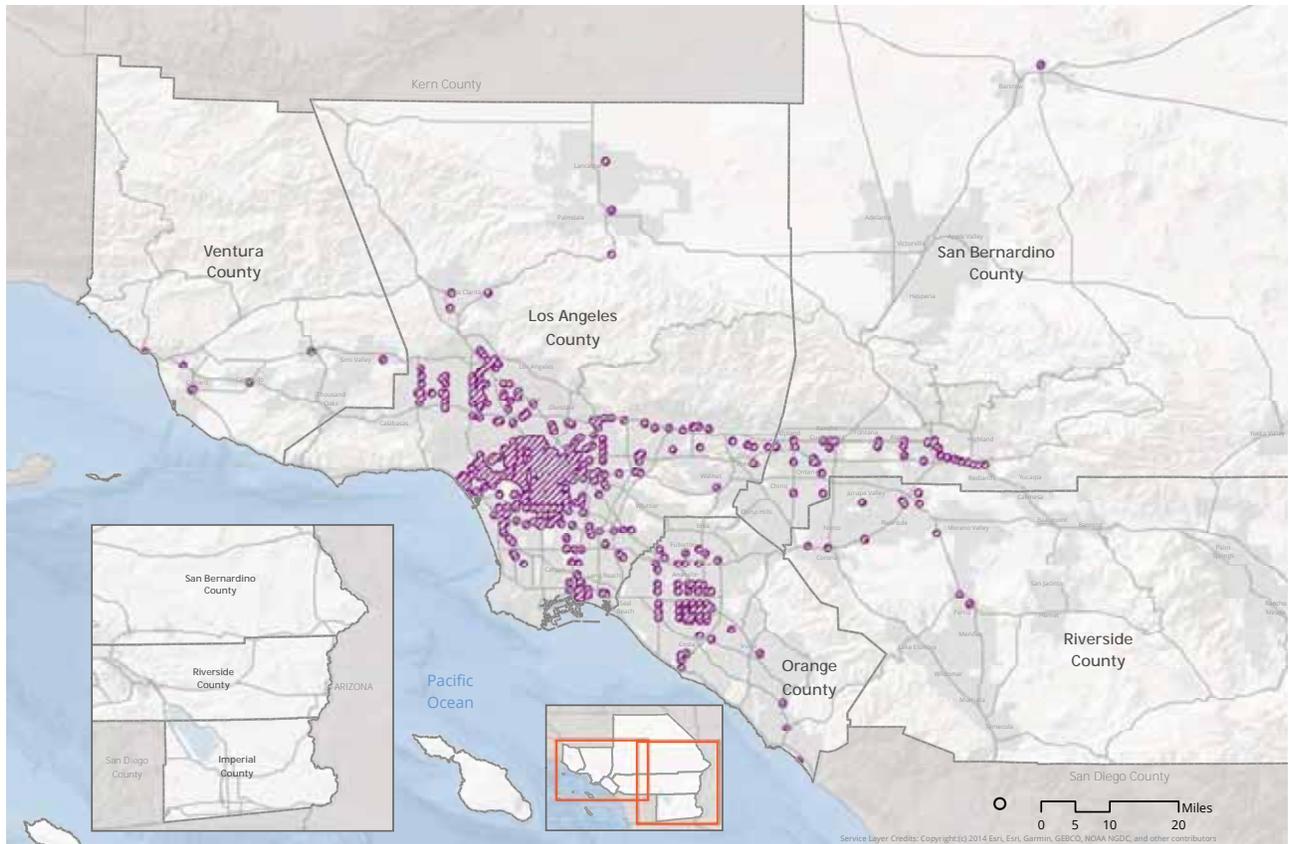
- (1) Centers are areas with denser employment than their surroundings.
- (2) Dots represent the total employment in each center, not center boundaries.
- (3) Names are intended to be illustrative and may not reflect all the jurisdictions in which a center fully lies.

SOURCE: SCAG, 2019

FIGURE 2.0-

SCAG Region Proposed Job Centers





Transit Priority Areas (2045)

TPA

Note: As defined in SB 743, "Transit priority area" means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations. Major transit stops are extracted from 2045 plan year of the Draft Connect SoCal. Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the Connect SoCal development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes

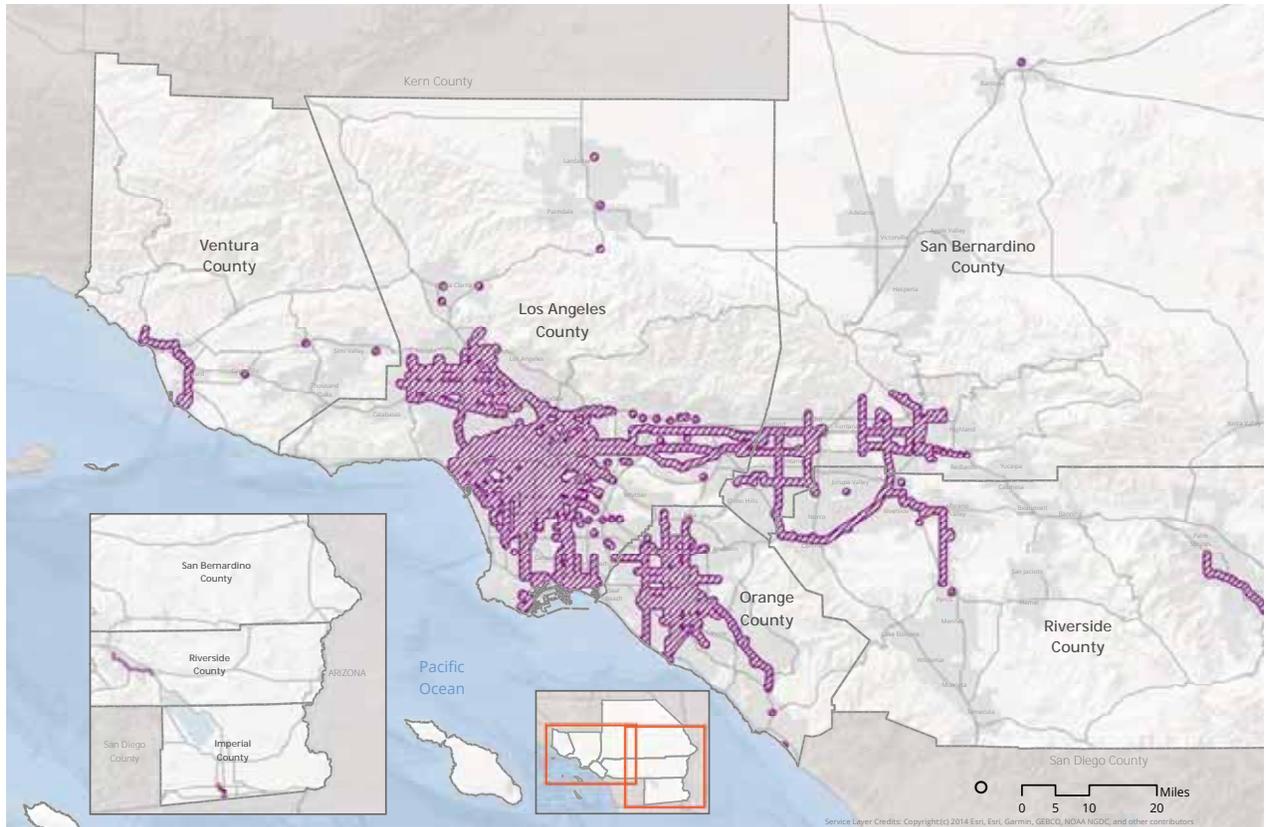
SOURCE: County Transportation Commissions, SCAG, 2019

FIGURE 2.0- 0

Transit Priority Areas



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High Quality Transit Areas (2045)

▨ HQTA

Note: To assist in identifying transit priority project areas, SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCS), and their surrounding areas in one-half mile radius distance, as specified in Section 21155.(b)(3). Major transit stops and HQTCS are extracted from 2045 plan year data of the Draft Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCS and developed based on the language in SB375. Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the Connect SoCal development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes available.

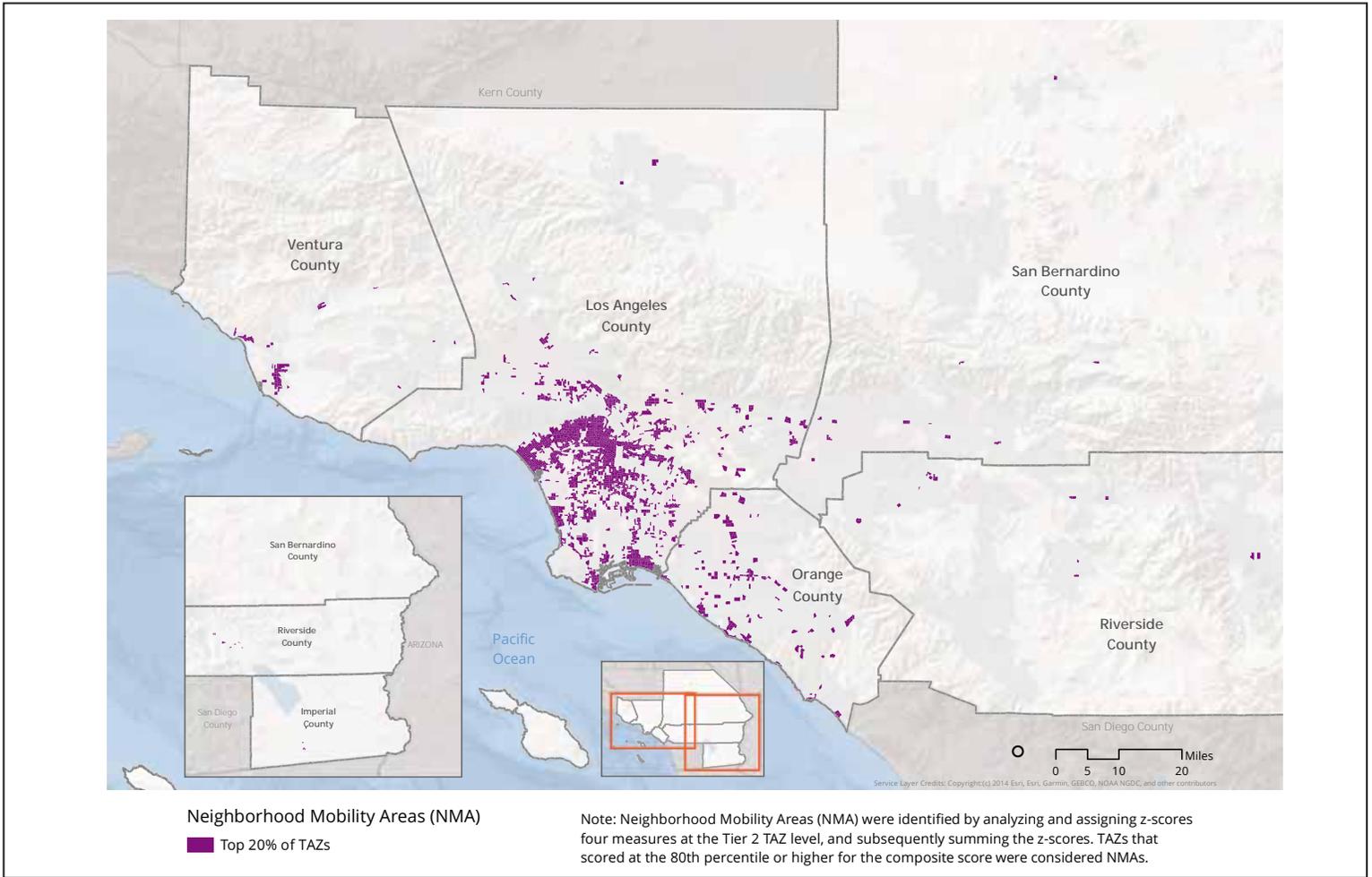
SOURCE: SCAG, 2019

FIGURE 2.0-

High-Quality Transit Areas throughout the SCAG Region in 2045



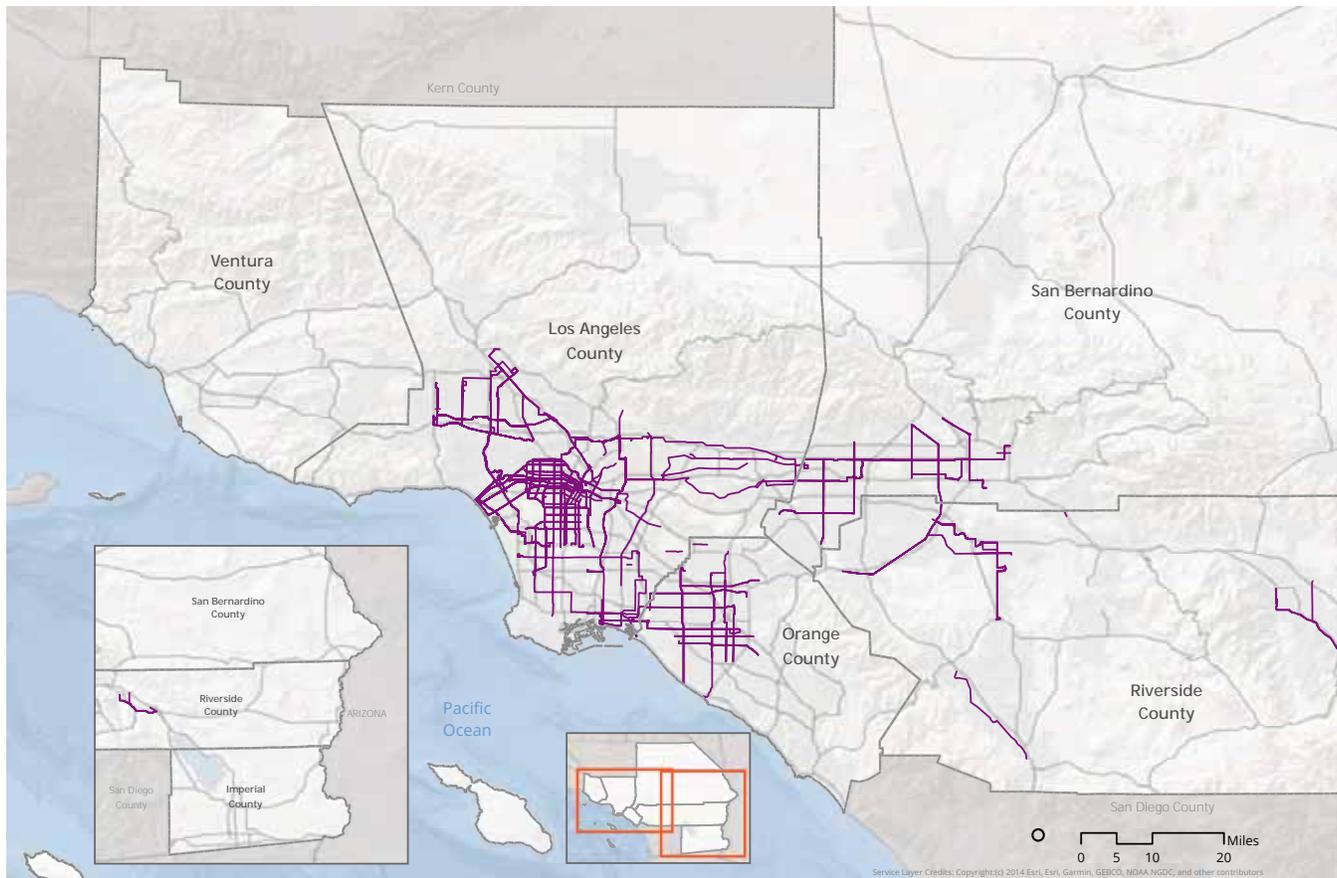
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SOURCE: SCAG, 2019

FIGURE 2.0- 2

Neighborhood Mobility Areas



Livable Corridors
 Livable Corridors

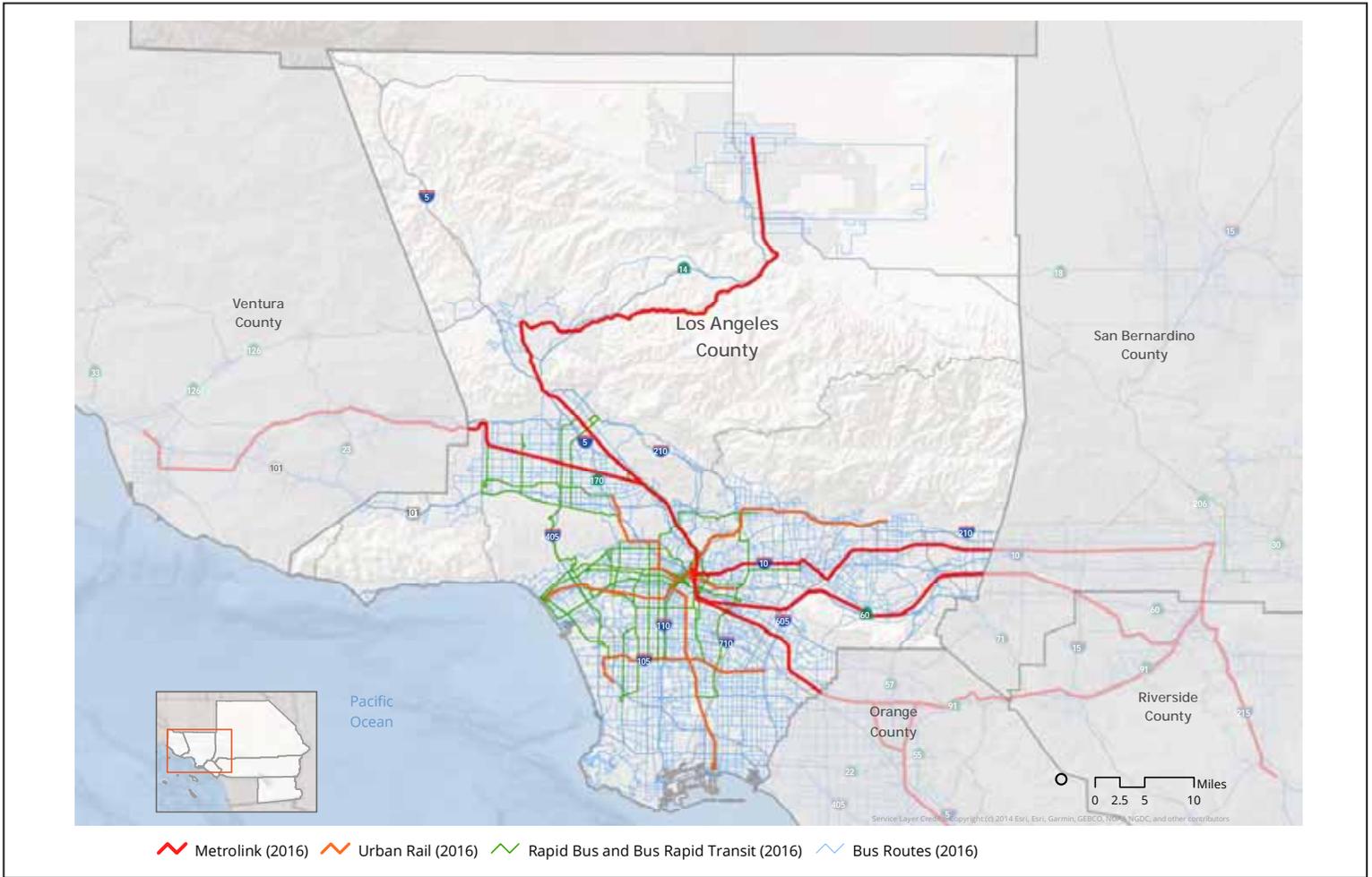
SOURCE: SCAG, 2019

FIGURE 2.0-

Livable Corridors



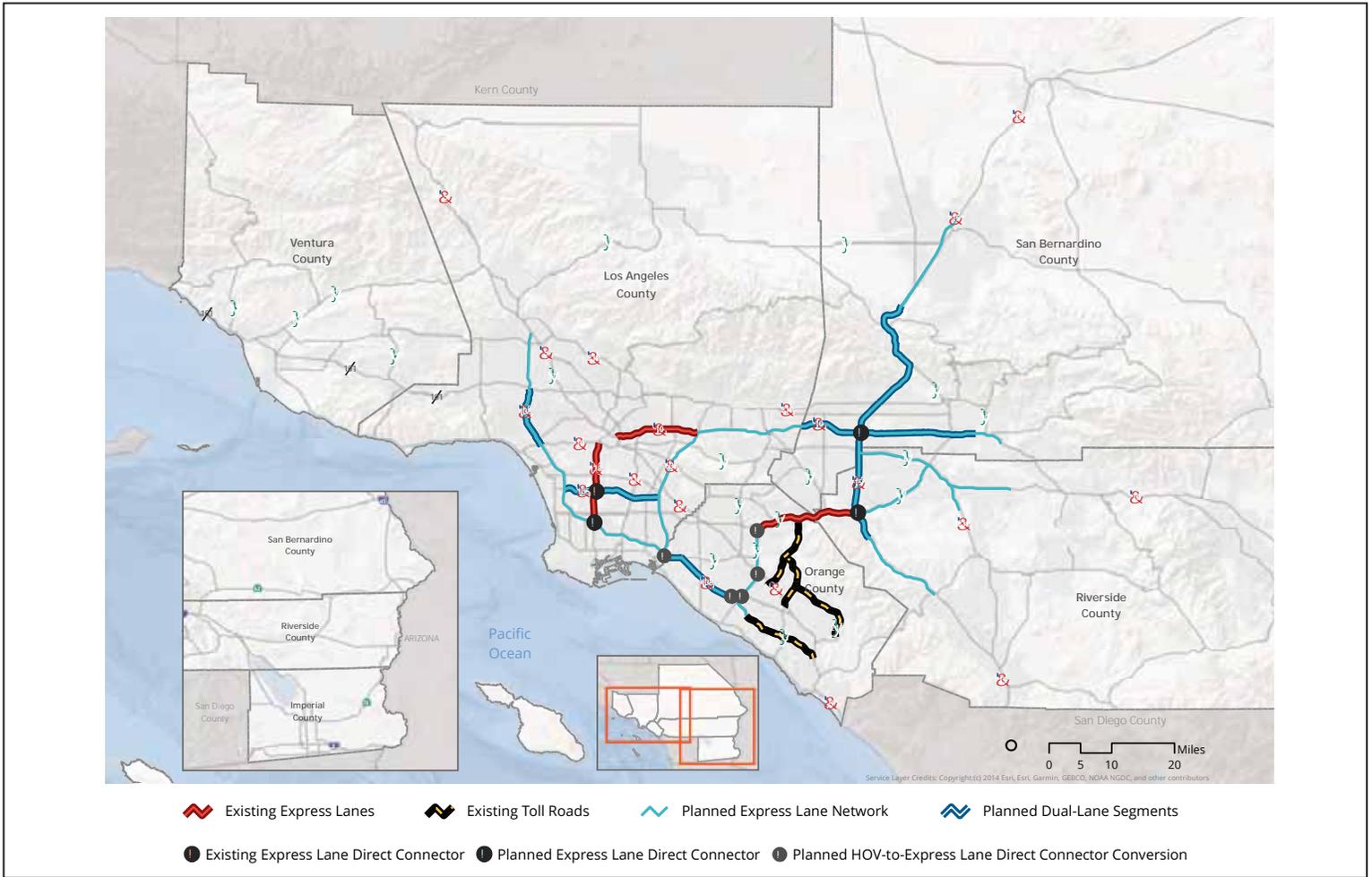
1329.001•10/19



SOURCE: SCAG, 2019

FIGURE 2.0-

Major Rail Projects



SOURCE: SCAG, 2019

FIGURE 2.0-

Planned Regional Express Lane Network

2.7 SOURCES

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3.0 ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION MEASURES

3.0.1 ENVIRONMENTAL IMPACT ANALYSIS

This section of the Program Environmental Impact Report (PEIR) evaluates the potential of the Plan to result in significant impacts to the environment. This section provides a full scope of environmental analysis in conformance with the California Environmental Quality Act Guidelines (*State CEQA Guidelines*).

As a result of the detailed evaluation contained in this PEIR, it has been determined that the Plan would result in potentially significant impacts to Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural Resources; Geology and Soils, Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing, Public Services; Recreation; Transportation, Traffic, and Safety; Tribal Cultural Resources, Utilities and Service Systems and Wildfire. Although mitigation measures have been proposed for all of the above issue areas that would reduce the potentially significant impacts to the maximum extent practicable, impacts would remain significant and unavoidable, even with the implementation of mitigation measures.

Each section provides the regulatory framework, existing conditions, thresholds of significance, impact analysis, mitigation measures for significant impacts, and level of significance after mitigation. The applicable federal, state, regional, county, and local statutes and regulations that govern individual environmental resources that must be considered by SCAG in the decision-making process are included in the regulatory framework described for each environmental resource. The existing conditions portion of the analysis has been prepared in accordance with the *State CEQA Guidelines* and includes a description of the environment in the Plan area. The existing conditions are described based on literature review, archived resources, and agency coordination. Significance thresholds were established in accordance with Appendix G of the *State CEQA Guidelines*. The level of significance after mitigation was evaluated in accordance with the thresholds of significance and the effectiveness of the proposed mitigation measures to reduce potentially significant impacts to below the significance threshold. The impact analysis contained in this environmental document is based on the implementation of Connect SoCal as described in **Chapter 2.0, Project Description**.

3.0.2 MITIGATION MEASURES

The PEIR addresses a large-scale region with a variety of projects spread over more than 20 years. As such, this PEIR identifies regional-level mitigation measures to be implemented by SCAG over the lifetime of the Plan as well as project-level mitigation measures for lead agencies to consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. As described in more detail in **Chapter 1.0, Introduction**, it is ultimately up to the lead agency to determine the appropriateness of the mitigation measures based on project-specific circumstances. As appropriate and authorized by the *CEQA Guidelines* and case law, the mitigation measures to be implemented by SCAG in this PEIR are less detailed than those that would be part of a project EIR and the more detailed project-level, performance standards-based mitigation measures are properly deferred to future project-specific CEQA reviews.

Since SCAG has no authority to require specific mitigation measures at the project level, and lead or responsible agencies have the discretion to determine which mitigation measures are applicable and feasible based on the location-specific circumstances, identification of programmatic mitigation measures fulfill SCAG's responsibility, that may be considered (among others) for implementation by lead, responsible, or trustee agencies in the region as applicable and feasible.

The mitigation measures presented in this PEIR recognize the limits of SCAG's authority; distinguish between SCAG commitments and project-level responsibilities and authorities; optimize flexibility for project implementation; and facilitate CEQA streamlining and tiering where appropriate on a project-by-project basis determined by each lead agency.

3.1 AESTHETICS

This section of the Program Environmental Impact Report (PEIR) describes the existing visual characteristics within the SCAG region, identifies the regulatory framework with respect to laws and regulations that address aesthetic resources, and analyzes the significance of the potential impacts in visual character that could result from development of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.1.1 ENVIRONMENTAL SETTING

3.1.1.1 Definitions

To provide context for the analysis presented below, a discussion of general definitions is necessary. Terms discussed include “viewsheds” and “visual quality,” both key factors in addressing impacts to aesthetics and views. The environmental setting also generally describes regionally significant resources and lists the designated scenic highways, byways, and vista points.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. The scenic quality component can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, the number of views seen, the distance of the viewers, and the viewing duration. Viewer sensitivity relates to the extent of the public’s concern for particular viewsheds.

Terms and criteria used in the assessment of visual resources are described below.

Degree of visibility: The extent to which transportation improvements and/or anticipated development can be seen. This refers to a large extent on route alignment and configuration (i.e., elevated, at grade, depressed, or underground) of the transportation improvement and location, height/bulk, construction materials (reflectivity, color) of development. Generally, elevated grade transportation investments have a more substantial impact on aesthetics and views. The taller a development, in general, the greater the potential for impact.

Glare: Perceived glare is the unwanted and potentially objectionable sensation as observed by a person looking directly into the light source (e.g., the sun, the sun’s reflection, automobile headlights, or other light fixtures). Reflective surfaces on existing buildings, car windshields, etc., can expose people and

property to varying levels of glare. Glare is typically a daytime condition where the sun reflects off a particular building, while lighting effects often occur when new nighttime sources of lighting are introduced into an area.

Scale: The size and proportion, and of transportation improvements and development in relation to the massing of the structures and buildings in surrounding area.

Scenic Resources: Significant visual resources identified by local planning documents that can be maintained and enhanced to promote a positive image in the community, such as natural open spaces, topographic formations, and landscapes that contribute to a high level of visual quality. Natural landforms and landscapes are often established as scenic resources, such as lakes, rivers and streams, mountain meadows, and oak woodlands. However, scenic resources can also include man-made open spaces and the built environment, such as parks, trails, nature preserves, sculpture gardens, and similar features.

State-designated Scenic Highway: The State Scenic Highway Program was created in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment, a highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.¹

Viewshed: A viewshed is a geographic area composed of land, water, biotic and/or cultural elements seen from one or more viewpoints and has inherent scenic qualities and/or aesthetic value as determined by those who view it. A viewshed's extent can be limited by a number of intervening elements, including trees and other vegetation, built structures, or topography such as hills and mountains.

Visual Quality: Visual quality refers to the character of the landscape, which generally gives visual value to a setting.^{2,3} Various jurisdictions, within the County such as cities, the county, and federal or regional agencies, provide guidelines regarding the preservation and enhancement of visual quality in their plans

¹ Los Angeles County Department of Regional Planning. 1965. *Regional Recreation Areas Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_web80-regional-recreation-areas-plan.pdf, accessed August 20, 2019.

² US DOT, Federal Highway Administration. *Guidelines for the Visual Impact Assessments of Highway Projects*. Available at: https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.pdf, accessed October 2018.

³ The term "visual quality" is used synonymously with "scenic quality" in this document.

or regulations.⁴ An example of such guidance is the Caltrans Scenic Highway Visual Quality Program Intrusion Examples, which are presented in **Table 3.1-1, Caltrans Scenic Highways Program: Examples of Visual Quality Intrusions**. As that table illustrates, a given visual element may be considered desirable or undesirable, depending on design, location, use, and other considerations. Because of the size and diversity of the SCAG region, it is not possible or appropriate to apply uniform standards to all areas within the region.

**Table 3.1-1
Caltrans Scenic Highways Program: Examples of Visual Quality Intrusions**

Land Use Type	Minor Intrusion	Moderate Intrusion	Major Intrusion
Buildings: Residential, Commercial, Industrial Development	Widely dispersed buildings. Natural landscape dominates. Wide setbacks and buildings screened from roadway. Exterior colors and materials are compatible with environment. Buildings have cultural or historical significance.	Increased number of buildings but are complementary to the landscape. Smaller setbacks and lack of roadway screening. Buildings do not degrade or obstruct scenic view.	Dense and continuous development. Highly reflective surfaces. Buildings poorly maintained. Visible blight. Development along ridgelines. Buildings degrade or obstruct scenic view.
Unightly Land Uses: Dumps, Quarries, Concrete Plants, Tank Farms, Auto Dismantling	Screened from view so that facility is not visible from the highway.	Not screened from view and visible but programmed/funded for removal and site restoration.	Not screened from view and visible by motorists. Will not be removed or modified. Scenic view is degraded.
Strip Malls		Neat and well landscaped. Blend with surroundings	Not harmonious with surroundings. Poorly maintained or vacant. Blighted, Development degrades or obstructs scenic view.
Parking Lots	Screened from view so that vehicles and pavement are not visible from the highway	Neat and well landscaped. Blend with surroundings	Not screened or landscaped. Scenic view is degraded.
Off-Site Advertising Structures			Billboards degrade or obstruct scenic view
Noise Barriers		Noise barriers are well landscaped and complement the natural landscape. Noise barriers do not degrade or obstruct views.	Noise barriers obstruct scenic view.
Power Lines	Not easily visible from road.	Visible, but compatible with surroundings	Poles and lines dominate view. Scenic view is degraded.
Agriculture: Structures, Equipment, Crops	Blends in and complements scenic view. Indicative of regional culture.	Not in harmony with surroundings. Competes with natural landscape for visual dominance.	Incompatible with and dominates natural landscape. Structures equipment or crops degrade scenic view.
Exotic Vegetation	Used as screening and landscaping. Blends in and complements scenic view.	Competes with native vegetation for visual dominance.	Incompatible with and dominates natural landscape. Structures equipment or crops degrade scenic view.

⁴ California cities and counties are not required to include visual quality elements in their General Plans, although many do. However, the General Plans are required to include a Conservation Element, which includes resources such as waterways and forests that frequently are also scenic resources.

Land Use Type	Minor Intrusion	Moderate Intrusion	Major Intrusion
Clearcutting		Tress bordering highway remains so that clearcutting is not evident.	Clearcutting or deforestation is evident. Scenic view is degraded.
Erosion	Minor soil erosion.	Slopes beginning to erode. Not stabilized.	Large slope failures and no vegetation. Scenic view is degraded.
Grading	Grading blends with adjacent landforms and topography.	Some changes, but restoration is taking place.	Extensive cut and fill. Scarred hillsides and landscape. Canyons filled in. Scenic view is degraded.
Road Design	Blends in and complements scenic view. Roadway structures are suitable for location and compatible with surroundings.	Cut and fill is visible but has vegetative cover.	

Source: Caltrans. *Scenic Highways Program, 1996.*

Scenic resources can include natural open spaces, topographic formations, landscapes, and manmade features. Many people associate natural landforms and landscapes with scenic resources, such as woodlands, lakes, rivers, streams, mountains, habitat, and agricultural lands. Scenic resources can also include urban open spaces and the built environment. Examples of these would include urban parks, trails, and nature centers, archaeological and historical resources, and man-made structures like buildings and bridges with unique architectural features. Tall buildings may also provide excellent views of scenic resources beyond the urban core. Typically, jurisdictions identify designated scenic resources, or some similar classification system, to identify priority scenic resources. These designated scenic resources are the focus of this chapter.

In urban areas, roadway rights-of-way comprise 20 to 30 percent of the total land area. As a result, transportation systems have a major influence on human perception of the visual environment. As most vehicular movement occurs along transportation corridors, their placement largely determines what parts of the area will be seen. Even for people not using the transportation system at a particular time, or who never use certain modes of travel, transportation systems are usually a dominant element of the visual environment. Air quality and visibility affect view sheds and visual quality. In the SCAG region, under certain weather conditions, pollutant emissions combined with poor natural ventilation in the air basin result in degraded visibility. Of particular note is photochemical smog and airborne particulates, finely divided solids or liquids, such as soot, dust, aerosols, and mists that absorb sunlight, producing haze and reducing visibility.

It is useful to think of scenic resources in terms of “typical views” seen throughout the SCAG region because scenic resources are rarely encountered in isolation. A typical view may include several types of scenic resources, including both natural and man-made elements. The typical views seen within the

SCAG region are outlined in the following paragraphs. It is important to distinguish between public and private views. Private views are views seen from privately owned land and are typically viewed by individual viewers, including views from private residences.

Public views are those experienced by the collective public. These include views of significant landscape features such as San Geronio Mountain or the Salton Sea, as seen from public viewing spaces, not privately owned properties. The analysis below addresses public views and not private views, since obstruction of private views is not generally regarded as a significant environmental impact. (See *Citizens for Responsible and Open Government v. City of Grand Terrace* (2008) 160 Cal.App.4th 1323, 1337-38; *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App.4th 477, 492-93). California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 *et seq.*) case law has established that in general protection of public views is emphasized. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal. App. 4th 720 [3 Cal. Rptr.2d 488] the court determined that:

We must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. As recognized by the court in Topanga Beach Renters Assn. v. Department of General Services (1976) 58 Cal.App.3d 188 [129 Cal.Rptr. 739]: '[A]ll government activity has some direct or indirect adverse effect on some persons. The issue is not whether [the project] will adversely affect particular persons but whether [the project] will adversely affect the environment of persons in general.'

Therefore, this analysis considers only public views in analyzing the visual impacts of implementing the Plan.

3.1.1.2 Existing Conditions

This section characterizes the baseline conditions for scenic vistas, scenic resources within scenic highway corridors, visual character and quality, sources of light and glare and other scenic resources afforded protection pursuant to county and city general plans. The SCAG region ranges in character from urban centers, to rural agricultural lands, to natural woodlands, to mountains and canyons, to lakes and waterways, to beaches and the Pacific Ocean.

The visual quality and character of the SCAG region is a function of the dramatic physical environment, ringed by two mountain ranges, the peninsular and transverse ranges; two deserts, the Mojave and Colorado; sandy beaches and marine terraces along the approximately 150-mile western margin of the SCAG region where the land meets the Pacific Ocean; and the Channel Islands that parallel the coastline. The highway and transportation system in the SCAG region provides a wide variety of opportunities for enjoying the Southern California scenery and travelling to some of the state's most popular destinations.

Geomorphic Regions

The six-county SCAG region is comprised of six of California's geomorphic regions: the Basin and Range province, the Coast Ranges, Colorado Desert province, the Mojave Desert, the Peninsular Ranges, and the Transverse Ranges. The geomorphic provinces and the valuable aesthetic resources they contain are described below.⁵

Basin and Range Province

The SCAG portion of the Basin and Range province lies within San Bernardino County. The province represents the westernmost part of the Great Basin and is characterized by interior drainage with lakes and playas, and abrupt changes in elevation.

Coast Ranges

Within the SCAG region, Coast Ranges are located in the counties of Ventura and Los Angeles. The Ranges are north-west trending mountain ranges, rising between 2,000 and 6,000 feet above sea level, and the valleys associated with them. The SCAG portion of the Coast Ranges is subparallel to the Rift Valley of the San Andreas Fault and is composed of granitic rock.

Colorado Desert Province

San Bernardino, Imperial, and Riverside counties are home to the Colorado Desert province within the SCAG region. The basin lies approximately 245 feet below sea level and contains the Salton Sea, California's largest lake. The landscape is dry and barren and is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla.

The Mojave Desert

The Mojave province within the SCAG region is located in Imperial, Los Angeles, Riverside, and San Bernardino counties. As the name suggests, it is composed of broad desert plains but also isolated mountain ranges. The interior region lies between the Garlock Fault and the San Andreas Fault and has enclosed drainage and various playas.

⁵ American Geosciences Institute. *California's Geomorphic Provinces*. Available at: www.americangeosciences.org/sites/default/files/earthcomm-edg-ca-c1a6q2r1.doc, accessed October 19, 2018.

Peninsular Ranges

The Peninsular Ranges make up a large portion of the SCAG region and are prevalent in Imperial, Los Angeles, Orange, Riverside, and San Bernardino counties. The series of ranges is similar to the Coast Ranges but is characterized by granitic rock intruding metamorphic rock. The province is bound to the east by the Colorado Desert and includes the Los Angeles Basin, Santa Catalina, Santa Barbara, and San Clemente and San Nicolas islands.

Transverse Ranges

The Transverse Ranges are located in Los Angeles, Riverside, San Bernardino, and Ventura counties of the SCAG region. The series of mountain ranges and valleys trend east-west and are bordered by the Santa Cruz Islands to the west and the San Bernardino Mountains to the east. The ranges are characterized by oil-rich sedimentary rock and include the San Gabriel, Tehachapi, Santa Monica, and Santa Susana Mountains. The province also contains the Los Padres, Angeles, and San Bernardino national forests.

Visual Character and Quality

Natural features include land and water resources such as parks and open areas, wilderness areas, beaches, and natural water resources. Man-made lakes are included as elements of the visual environment that have been constructed to resemble natural features. The loss of natural aesthetic features, reduction of vistas, or the introduction of contrasting urban features may diminish the value of natural resources in the region. Views of the coast from locations in Ventura, Los Angeles and Orange Counties are considered valuable visual resources.^{6,7,8} Views of various mountain ranges are also widely prevalent throughout the region. Rivers, streams, creeks, lakes, and reservoirs located in the region may also be visually significant. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the built environment that may be visually significant

⁶ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan. Chapter 9: Conservation and Natural Resources Element. Section VII. Scenic Resources.* October. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf, accessed March 19, 2019.

⁷ Orange County Public Works OC Development Services. 2012. *Orange County General Plan. Chapter VI Resources Element.* Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed March 19, 2019.

⁸ Ventura County. 2011. *Ventura County General Plan: Resources Appendix.* June. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/General-Plan-Resources-Appendix.pdf>, accessed March 19, 2019.

include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

In the approximately 38,000 square mile SCAG region, there are approximately 1,352 square miles of urban land use, 1,299 square miles of a suburban land use, and 35,145 square miles of rural land use.⁹ The counties of Imperial, Riverside, San Bernardino, and Ventura are comprised of more than 90 percent rural land uses, with approximately 73.8 percent of land in Los Angeles County characterized by rural land uses and approximately 52.1 percent of land in Orange County characterized by rural land uses. (Table 3.1-2, Urban, Suburban, and Rural Land Use Patterns by County; Figure 3.1-1, Land Use Pattern in SCAG Region).

**Table 3.1-2
Urban, Suburban, and Rural Land Use Patterns by County**

County	Urban Land Use Pattern (Square Miles)	Percent Urban Land of Overall Area	Suburban Land Use Pattern (Square Miles)	Percent Suburban Land of Overall Area	Rural Land Use Pattern (Square Miles)	Percent Rural Land of Overall Area
Imperial	77.8	1.8	34.6	0.8	4,327.0	97.5
Los Angeles	465.6	12.3	522.8	13.8	2,789.8	73.8
Orange	144.9	20.6	191.9	27.3	366.0	52.1
Riverside	82.2	4.5	85.1	4.7	1,647.5	90.8
San Bernardino	348.9	1.8	234.5	1.2	19,348.1	97.1
Ventura	233.2	3.3	230.8	3.2	6,667.2	93.5
SCAG region	1,352.5	3.6	1,299.8	3.4	35,145.8	93.0

Note: Portions of each County have not been categorized, which means that percentages may not add up to 100 percent.

Source: SCAG Existing Land Uses (03/2017). Land use patterns have been interpreted from the following existing land use categories:

- **Urban:** multi-family residential, general office, commercial and services, facilities, education, industrial, transportation/communications/utilities, mixed commercial and industrial, and under construction.
- **Suburban :** single-family residential, mobile homes and trailer parks, mixed residential, and mixed residential and commercial
- **Rural:** rural residential, military installations, open space and recreation, agriculture, vacant, water, undevelopable, and unknown

Most existing urban development is found along the coastal plains of Los Angeles, Orange, and Ventura Counties, as well as in adjoining valleys that extend inland from the coastal areas. Urban development also has moved into the inland valleys such as the Antelope, San Bernardino, Yucca, Moreno, Hemet–San Jacinto, Coachella, and Imperial Valleys. Downtown Los Angeles is the largest urbanized center within the SCAG region. Other high-density urbanized areas include other centers within the City of Los Angeles (Century City, Hollywood, Warner Center), as well as the downtown areas of other cities

⁹ SCAG, 2019 Modeling SPM output September 13, 2019

including the cities of Long Beach, Burbank, Glendale, Pasadena, and Pomona in Los Angeles County; Riverside in Riverside County; San Bernardino in San Bernardino County; Santa Ana, Anaheim, and Irvine in Orange County; Oxnard and Ventura in Ventura County; and El Centro in Imperial County. The urban form is limited by national forests, mountains, and the coast. The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, and the “West Side” of Los Angeles.

Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density areas close to the ocean. Surrounding suburbs are predominantly low-density housing tracts typically interspersed with low-scale commercial corridors. Low-density housing, with interspersed low-density commercial areas expands west into Ventura County, east through southeast Los Angeles County, throughout much of Orange County, and through the western Inland Empire. The resort communities and cities of the Coachella Valley in Riverside County also are built primarily on a low-density scale. The developing land on the urban fringe, such as the Antelope Valley of Los Angeles County and the Victorville-Hesperia area, Lucerne Valley, and Yucca Valley of San Bernardino County, also are primarily low-density residential. The Imperial Valley in Imperial County is primarily an agricultural region with a growing, yet still regionally small, population that lives in primarily low-density developments. According to the California Department of Conservation, there are approximately 2.6 million acres of agricultural lands in the SCAG region: approximately 1.12 million acres of farmland and approximately 1.48 million acres of grazing land/rangeland (see **Section 3.2, Agriculture and Forestry Resources**).

Visual Resources

The loss of natural aesthetic features, reduction of vistas, or the introduction of contrasting urban features may diminish the value of natural resources in the region. Natural features include land and open spaces such as park and open space areas, mountain areas, and natural water sources. Included, as natural features, are elements of the visual environment, which have been constructed to resemble natural features, such as man-made lakes.

Views of the various mountain ranges from locations in the region are considered valuable visual resources, as are views of the coast from locations in Ventura, Los Angeles, and Orange counties.^{10,11,12}

¹⁰ Los Angeles County Department of Regional Planning. Adopted October 2015. *Los Angeles County General Plan. Chapter 9: Conservation and Natural Resources Element. Section VII. Scenic Resources*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf, accessed October 19, 2018.

¹¹ Orange County Public Works OC Development Services. July 2014. *Orange County General Plan. Chapter VI Resources Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed October 19, 2018.

Other natural features that may contain visual significance include the numerous rivers, streams, creeks, lakes, and reservoirs located within the region. Features of the built environment that may have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, or a location where an historic event occurred.

Scenic Vistas

There are nine Caltrans-designated vista points in the SCAG region (Table 3.1-3, Caltrans Designated Vista Points).

**Table 3.1-3
Caltrans Designated Vista Points**

County	Name	Route	Post Mile
Los Angeles	Lamont Odett	14	57.8
Riverside	Coachella Valley	74	87.6
Riverside	Indian Hill Road	243	13.8
San Bernardino	Bear Valley Dam	18	44.2
San Bernardino	Donald S. Wieman	18	21.4
San Bernardino	Eyes of the World	38	14.2
San Bernardino	Mill Creek	38	10.7
San Bernardino	Silverwood Lake	138	3.6
San Bernardino	Silverwood Lake 2	138	3.6

Source: Department of Transportation. 2015. Caltrans GIS Data- California Vista Points. August. Available online at: <http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/Vista.html>, accessed March 19, 2019.

There are no county-designated Vista Points within the county general plans for Imperial, Orange, Riverside, San Bernardino, or Ventura Counties; however, these general plans emphasize protection of scenic vistas from scenic routes/drives/highways and identify scenic resources and landmarks for which the scenic background and natural resources of the area should be preserved. Los Angeles County has designated scenic vistas within the Santa Monica Mountains Local Coastal Program.¹³

¹² Ventura County. June 2011. *Ventura County General Plan: Resources Appendix*. Available at: <http://www.ventura.org/rma/planning/pdf/plans/General-Plan-Resources-Appendix-6-28-11.pdf>, accessed October 19, 2018.

¹³ Los Angeles County Department of Regional Planning. 2018. *Santa Monica Mountains Local Coastal Program*. Available online at: <http://planning.lacounty.gov/coastal/smm>, accessed March 19, 2019.

Scenic Resources within Scenic Highway Corridors

There are two National Scenic Byways, two BLM Back Country Byways, and three National Forest Scenic Byways in the SCAG region:

- National Scenic Byways
 - Arroyo Seco Historic Parkway – Route 110 (9.5 miles) (Los Angeles County)¹⁴
 - Parker Dam Road (11 miles) (San Bernardino County)¹⁵
- State Scenic Byways
 - Twentynine Palms Highway- Route 62 (9 miles) (Riverside County)¹⁶
 - Ramona Expressway (24 miles) (Riverside County)¹⁷
 - Route 74 (68 miles) (Riverside County)¹⁸
- BLM Scenic Areas and Back Country Byways
 - Bradshaw Trail Back Country Byway (67 miles) (Riverside County, Imperial County)¹⁹
 - Wild Horse Canyon Scenic Backcountry Byway (11 miles) (San Bernardino County)²⁰
- National Forest Scenic Byways
 - Angeles Crest Scenic Byway (Route 2)²¹

¹⁴ U.S. Department of Transportation, Federal Highway Administration, *Arroyo Seco Historic Parkway – Route 110*. Available online at: <https://www.fhwa.dot.gov/byways/byways/10246>, accessed March 19, 2019.

¹⁵ America’s Scenic Byways. 2018. *America’s Scenic Byways: California*. Available online at: <https://scenicbyways.info/state/CA.html>, accessed March 19, 2019.

¹⁶ America’s Scenic Byways. *Route 62 – Twentynine Palms Highway*. Available online at: <https://scenicbyways.info/byway/2173.html>, accessed August 20, 2019.

¹⁷ America’s Scenic Byways. *Ramona Expressway*. Available online at: <https://scenicbyways.info/byway/2181.html>, accessed August 20, 2019.

¹⁸ America’s Scenic Byways. *Route 74*. Available online at: <https://scenicbyways.info/byway/10685.html>, accessed August 20, 2019.

¹⁹ U.S. Department of the Interior Bureau of Land Management. *Bradshaw Trail National Back Country Byway*. Available online at: <https://www.blm.gov/visit/bradshaw-trail>, accessed August 20, 2019.

²⁰ America’s Scenic Byways. *Wild Horse Canyon Scenic Backcountry Byway*. Available online at: <https://scenicbyways.info/byway/2175.html>, accessed August 20, 2019.

²¹ America’s Scenic Byways. *Angeles Crest Scenic Byway (Route 2)*. Available online at: <https://scenicbyways.info/byway/10245.html>, accessed August 20, 2019.

- Rim of the World Scenic Byway (107 miles) (San Bernardino County)²²
- Palms to Pines Scenic Byway (67 miles) (Riverside County)²³

Portions of eight State Routes in the SCAG region have been designated by Caltrans as State Scenic Highways (Table 3.1-4, Officially Designated State Scenic Highways, and Figure 3.1-2, State Designated and Eligible Scenic Highways and Vista Points).

Table 3.1-4
Officially Designated State Scenic Highways

Route	County	Location	Miles
2	Los Angeles	From 2.7 miles north of State Route 210 (at La Canada) to San Bernardino County Line	55.1
27	Los Angeles	Topanga Canyon State Scenic Highway	2.5
33	Ventura	From 6.4 miles north of SR-150 to Santa Barbara County Line	39.9
38	San Bernardino	From 0.1 mile east of South Fork Campground to 2.9 miles south of SR-18 at State Line	15.7
62	Riverside	From SR-10 north to the San Bernardino County Line	9.2
74	Riverside	From western boundary of the San Bernardino National Forest to SR-111 in Palm Desert	47.7
91	Orange	From SR-55 to eastern city limit of Anaheim	4.2
243	Riverside	From SR-74 to the Banning City limit	28.2

Source: California Department of Transportation. 2017. Officially Designated State Scenic Highways. March. Available online at: <http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html>, accessed March 19, 2019.

Additional roadways in the SCAG region have been designated by Caltrans as County Scenic Highways (Table 3.1-5, Officially Designated County Scenic Highways).

²² America's Scenic Byways. *Rim of the World Scenic Byway*. Available online at: <https://scenicbyways.info/byway/2595.html>, accessed August 20, 2019.

²³ America's Scenic Byways. *Palms to Pines Scenic Byways*. Available online at: <https://scenicbyways.info/byway/2326.html>, accessed August 20, 2019.

Table 3.1-5
Officially Designated County Scenic Highways

Route	County	Location	Miles
Mulholland Highway	Los Angeles	From SR-1 to Kanan Dume Road, and from west of Cornell Road to east of Las Virgenes Road	19.0
Malibu Canyon-Las Virgenes Highway	Los Angeles	From SR-1 to Lost Hills Road	7.4

Source:

California Department of Transportation. Officially Designated County Scenic Highways. March. Available online at: http://www.dot.ca.gov/design/lap/livability/scenic-highways/docs/OD_County_Scenic_Hwys_2015.pdf, accessed March 19, 2019.

There are 40 additional portions of roadways in the SCAG region that have been identified by Caltrans as being *eligible* for designation as a State Scenic Highways (**Table 3.1-6, Roadways Eligible for State Scenic Highway Designation**).

Table 3.1-6
Roadways Eligible for State Scenic Highway Designation

Route	County	Location	Post Miles	Miles
1	Orange/Los Angeles	I-5 SO San Juan Cap./SR-19 Nr Long Beach	0.0–3.6	3.6
1	Los Angeles/Ventura	SR-187 Nr Santa Monica/SR-101 Nr El Rio	32.2–21.1	11.1
2	Los Angeles/San Bernardino	SR-210 in La Cañada. Flintridge/SR-138 Via Wrtwd	22.9–6.36	16.54
5	San Diego/Orange	Opposite Coronado/SR-74 Nr San Juan Cap	R14.0–9.6	4.4
5	Los Angeles	I-210 Nr Tunnel Station/SR-126 Nr Castaic	R44.0–R55.5	11.5
8	San Diego/Imperial	Sunset Cliffs/SR-98 Nr Coyote Wells	T0.0–R10.0	10
15	San Diego/Riverside	SR-76 Nr San Luis Rey River/SR-91 Nr Corona	R 46.5–41.5	5.0
15	San Bernardino	SR-58 Nr Barstow/SR-127 Nr Baker	76.9–R136.6	59.7
18	San Bernardino	SR-138 Nr Mt Anderson/SR-247 Nr Lucerne Valley	R17.7–73.8	56.1
27	Los Angeles	SR-1/Mulholland Dr.	0.0–11.1	11.1
30	San Bernardino	SR-330 Nr Highlands/SR-10 Nr Redlands	T29.5–33.3	3.8
33	Ventura	SR-101 Nr Ventura/SR150	0.0–11.2	11.2
33	Ventura/Santa Barbara/San Luis Obispo	SR-150/SR-166 in Cuyama Valley	11.2–11.5	0.3
38	San Bernardino	SR-10 Nr Redlands/SR-18 Nr Fawnskin (All)	0.0–49.5	49.5
39	Los Angeles	SR-210 Nr Azusa/SR-2	14.1–44.4	30.3
40	San Bernardino	Barstow/Needles	0.0–154.6	154.6
57	Orange/Los Angeles	SR-90/SR-60 Nr City of Industry	19.9–R4.5	15.4
58	Kern/San Bernardino	SR-14 Nr Mojave/I-15 Nr Barstow	112.0–R4.5	107.5
62	Riverside/San Bernardino	I-10 Nr Whitewater/Arizona SL (All)	0.0–142.7	142.7
71	Riverside	SR-91 Nr Corona/SR-83 NO Corona	0.0–G3.0	3.0
74	Orange/Riverside	I-5 Nr San Juan Capistrano/I-111 (All)	0.0–R96.0	96.0
78	San Diego/Imperial	SR-79 Nr Santa Ysabel/SR-86 Passing Nr Julian	51.1–13.2	37.9

Route	County	Location	Post Miles	Miles
79	San Diego/Riverside	SR-78 Nr Santa Ysabel/SR-371 Nr Aguanga	20.2–2.3	17.9
91	Orange/Riverside	SR-55 Nr Santa Ana Canyon/I-15 Nr Corona	R9.2–7.5	1.7
91	Orange	SR-55/E CiL Anaheim	R9.2–13.4	4.2
101	Los Angeles/Ventura/ Santa Barbara/San Luis Obispo	SR-27 (Topanga Canyon Blvd) SR-46 Nr Paso Robles	25.3–57.9	27.6
111	Imperial/Riverside	Bombay Beach-Salton Sea SP/SR-195 Nr	57.6–18.4	39.2
111	Riverside	SR-74 Nr Palm Desert/I-210 Nr Whitewater	39.6–R63.4	23.8
118	Ventura/Los Angeles	SR-23/Desoto Ave. Nr Browns Canyon	17.4–R2.7	14.7
126	Ventura/Los Angeles	SR-150 Nr Santa Paula/I-5 Nr Castaic	R12.0–0R5.8	6.2
127	San Bernardino/Inyo	I-15 Nr Baker/Nevada SI (All)	L0.0–49.4	49.4
138	San Bernardino	SR-2 Nr Wrightwood/SR-18 Nr Mt Anderson	6.6–R37.9	31.3
142	San Bernardino	Orange CL/Peyton Dr.	0.0–4.4	4.4
150	Santa Barbara/Ventura	SR-101 Nr Ventura/SB CL/SR-126 Nr Santa	0.0–34.4	34.4
173	San Bernardino	SR-138 Nr Slvrwd Lk/SR-18 SO lk Arwhd (All)	0.0–23.0	23.0
210	Los Angeles	I-5 Nr Tunnel Station/SR-134	R0.0–R25.0	25.0
215	Riverside	SR-74 Nr Romoland/SR-74 Nr Perris	23.5–26.3	2.8
243	Riverside	SR-74 Nr Mountain Cntr/I-210 Nr Banning (All)	0.0–29.7	29.7
247	San Bernardino	SR-62 Nr Yucca Valley/I-15 Nr Barstow (All)	0.0–78.1	78.1
330	San Bernardino	SR-30 Nr Highland/SR-18 Nr Running Springs (All)	29.5–44.1	14.6

Source: California Department of Transportation. 2017. *Officially Designated State Scenic Highways*. March. Available online at: <http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html>, accessed March 19, 2019.

As of 2015, there are 5,045 state agency bridges on the California State Highway system and 3,699 local agency bridges that are located within the SCAG region, eight of which are listed on the National Register of Historic Places (NRHP), 80 of which are eligible for NRHP, five of which are potentially eligible for NRHP, 286 for which the historical significance has not been determined, and 8,365 of which are not eligible for NRHP (Table 3.1-7, **Historical Significance of State and Local Agency Bridges**).²⁴

²⁴ California Department of Transportation. 2015. *Structure Maintenance & Investigations: Historical Significance – State Agency Bridges*. Available online at: http://www.dot.ca.gov/hq/structur/strmaint/hs_state.pdf, accessed March 19, 2019.

**Table 3.1-7
Historical Significance of State and Local Agency Bridges**

County	Listed on National Register of Historic Places	Eligible for NRHP	Potentially Eligible for NRHP	Historic Significance Not Determined as of August 2015	Not Eligible for NRHP	Total
Imperial	0	0	0	16	414	430
State agency	0	0	0	8	283	291
Local agency	0	0	0	8	131	139
Los Angeles	7	69	4	81	3,824	3,985
State agency	0	42	0	70	2,099	2,211
Local agency	7	27	4	11	1,725	1,774
Orange	0	2	0	9	1,204	1,215
State agency	0	2	0	6	652	660
Local agency	0	0	0	3	552	555
Riverside	1	5	0	29	1,118	1,153
State agency	0	1	0	23	627	651
Local agency	1	4	0	6	491	502
San Bernardino	0	3	1	138	1,308	1,450
State agency	0	1	1	25	886	913
Local agency	0	2	0	113	422	537
Ventura	0	1	0	13	497	511
State agency	0	0	0	13	306	319
Local agency	0	1	0	0	191	192
SCAG region	8	80	5	286	8,365	8,744
State agency	0	46	1	145	4,853	5,045
Local agency	8	34	4	141	3,512	3,699

Source: California Department of Transportation. 2015. Structure Maintenance & Investigations: Historical Significance – State Agency Bridges. Available online at: http://www.dot.ca.gov/hq/structur/strmaint/hs_state.pdf, accessed March 19, 2019.

California Department of Transportation. 2015. Structure Maintenance & Investigations: Historical Significance – Local Agency Bridges. Available online at: http://www.dot.ca.gov/hq/structur/strmaint/hs_local.pdf, accessed March 19, 2019.

Transportation Facilities

As noted above in **Tables 3.1-3** through **3.1-6**, many public views in the SCAG region are from arterial and freeway routes and the freeways themselves are a visual component of the landscape. The location of roadways largely determines which parts of the region will be seen, with some roadways gaining notoriety from the views they provide, such as the Pacific Coast Highway, which runs along the entire coastal side of the SCAG region. Elements of the transportation infrastructure, including roadways, airports, railroads, and seaports are a component of the visual character of the urban environment. A discussion of these components is provided below.

Freeways, Highways, and Roadways

In urban areas, roadway rights-of-way make up approximately 20 to 30 percent of the total land area. Because most vehicular movement occurs along transportation corridors, their placement largely determines what parts of the SCAG region will be seen by persons traveling in the area. In the SCAG region, arterials and freeways constitute a major component of the existing visual environment. The visual character of freeways themselves depends on the scale at which observers view them. Above and from a distance, freeway traffic forms a compelling contribution to the scenery, whether by lights moving at night or by the changing visual character of daytime traffic. From below and at close range, freeways (including associated sound walls and safety railings) are often barriers to views of near and distant scenery. Arterials and freeways make up a major component of the existing visual environment of the region. Arterials in the SCAG region offer a variety of visual experiences from the uncrowded, narrow winding roads in mountain areas to the high-volume urban streets in the densely populated areas of Los Angeles and Orange Counties. Many arterials have been built connecting urban concentrations with natural areas with key scenic resources. Examples include:

- The Pacific Coast Highway 1 (PCH) traverses the entire coastal side of the SCAG region. Proceeding northward, PCH enters the region at Dana Point in Orange County and follows the shoreline of the Pacific Ocean, illuminating its beaches and rugged cliffs, through Los Angeles and Ventura Counties, where it continues on to Northern California.²⁵
- The 50-mile Santa Monica Mulholland Scenic Corridor runs westward from the Hollywood Freeway (U.S. 101), winding its way through the Santa Monica Mountains to Leo Carrillo State Beach in Malibu.²⁶
- The 15-mile Palos Verdes Scenic Drive begins at Palos Verdes Estates and goes to Point Fermin Park in the community of San Pedro. The cliff-top section of the road offers many scenic views.

In addition, county and local roads in foothill and mountain areas also afford panoramic views throughout the region. Examples of areas with these types of views include:

- Los Angeles County: Santa Monica Mountains, San Gabriel Mountains, Verdugo Mountains, Santa Susana Mountains (also in Ventura County), San Jose Hills, Puente Hills
- Orange County: San Joaquin Hills, Anaheim Hills, and Santa Ana Mountains

²⁵ America's Scenic Byways. *Pacific Coast Highway – California's Route 1*. Accessed online at: <https://scenicbyways.info/byway/12744.html>, accessed August 20, 2019.

²⁶ Mountains Recreation & Conservation Authority. *Mulholland Scenic Parkway and Corridor*. Accessed online at: <https://mrca.ca.gov/parks/park-listing/mulholland-scenic-parkway-and-corridor/>, accessed August 20, 2019.

- Riverside County: San Jacinto Mountains
- San Bernardino County: Chino Hills and San Bernardino Mountains
- Ventura County: Simi Hills, Santa Susana Mountains, Santa Monica Mountains

Mountainous portions of Imperial County are not generally accessible from county roads. Large areas in the Chocolate Mountains are owned by the military and are not accessible to civilians.

Trains

Passenger rail operations (i.e., Amtrak, Metrolink, Metro) occupy existing railroad tracks and right-of-way areas and generally limited in terms of routes and overall passengers served. Except in predominantly residential areas, the view of passenger trains (at-grade or elevated guideways) is not generally considered visually offensive to most viewers. Conversely, passenger rail operations afford riders a variety of views. In Ventura County, for example, Amtrak provides scenic views of the coastline and adjacent mountains. Because of their prevalence in the urban core at relatively low elevations, passenger rail operations in the SCAG region provide accessible views of scenic resources comparable to those associated with freeways, highways, and roadways.

Freight railroads and associated rail yards are often considered to have a negative aesthetic effect in many urban communities. This perception is largely due to graffiti associated with rail cars and rail yards, unsightly building facilities, and viewshed blockage. Additional factors include building scale and utilitarian architectural style, visual intrusiveness on surrounding land uses, and community context (i.e., predominately industrial vs. residential uses). Negative opinions are particularly acute within adjacent residential communities. Views of freight railroads (i.e., rail cars) and rail yard facilities are largely limited, due, in part, to topography, security fencing, and limits on operation within urban communities. However, some facilities are visible from adjacent roadways, along freeways, highways, railroad right-of-ways, and hillside areas. Rail yard facilities within the SCAG region are predominately located within industrial core areas and include the Port of Los Angeles, Long Beach, East Los Angeles, Hobart, City of Industry (Los Angeles County), West Colton, and Burlington Northern/Santa Fe (BNSF) (San Bernardino County). Additional freight facilities are also located in less densely populated areas such as Barstow and Yermo (San Bernardino County).

Airports

The SCAG region includes numerous airports serving both commercial and private airplane flights. Major commercial airports in the region include Los Angeles International Airport (LAX), Palmdale Airport, Long Beach Airport, and Burbank Airport in Los Angeles County; John Wayne Airport in

Orange County; Ontario International Airport, San Bernardino International Airport, and Southern California Logistics Airport in San Bernardino County; and Palm Springs International Airport and March Inland Port in Riverside County. From an aesthetic resources standpoint, the proximity of aviation facilities to residential areas is considered to have a negative impact due to the industrial nature of aviation facilities and their attraction of related industrial uses including warehousing and freight-based businesses. Direct views of aviation operations at airports, views of takeoffs and landings, and the prevalence of trucks and vehicular congestion near aviation facilities all contribute to the perceived negative aesthetic effects of airports on residential areas. Although some people enjoy watching planes take off and land.

Within the SCAG region, proximal views of takeoffs and landings of large commercial aircraft occur near all major commercial airports. Proximal, but temporary, passing views of aviation facilities and airport operations are also prevalent from highways and major arterials serving these facilities. Near LAX, residents of Inglewood, El Segundo, Playa del Rey, and Westchester are exposed to these types of views. Residential areas in Palmdale, Lancaster, and unincorporated Los Angeles County are proximal to flights at the Palmdale facility. Long Beach and Signal Hill residents have views of takeoffs and landings at the Long Beach Airport. Residents in Tustin, Newport Beach, Irvine, and Costa Mesa are located in proximity to the John Wayne Airport. Residential and resort housing is located close to the Palm Springs Airport. Moreno Valley and Riverside residents have the closest views of flights from March Inland Port. Residential areas in San Bernardino, Colton, and Redlands have views of flights at the San Bernardino International Airport. Ontario residents have the closest views of flights from the Ontario International Airport. Victorville residents have the closest views of flights from the Southern California Logistics Airport.

To a lesser degree, similar conditions are experienced near general aviation facilities throughout the region, although air traffic is considerably less than at commercial aviation facilities. In general, there is a great deal less air traffic and therefore less population exposed to this traffic at general aviation facilities than near commercial facilities. However, several general aviation facilities (e.g., Santa Monica, Hawthorne, Van Nuys) are located near urban residential areas.

Ports

The adjacent shipping ports of Los Angeles and Long Beach represent the major shipping location in the SCAG region and also one of the most important shipping locations in the United States. Smaller ports include Port Hueneme in Ventura County, Redondo Beach Harbor in Los Angeles County, and Dana Point Harbor in Orange County. Proximity to rail and air transport facilities increases the utility and importance of these ports. Because of security and safety concerns, ports generally block public access to

the waterfront within the port, limiting visual access as well. However, provisions of the California Coastal Act provide for public access to the coast elsewhere in the SCAG region.

Port facilities in Los Angeles and Long Beach offer views of container terminals, cranes, other types of loading equipment, and ships carrying cargo in and out of the ports. Operations in the Port of Los Angeles are visible in portions of the San Pedro area (City of Los Angeles). Port facilities in Long Beach are widely visible from downtown Long Beach, portions of West Long Beach, and along the shoreline south of downtown. Port of Long Beach facilities are also visible from two of the city's major tourist attractions along Queensway Bay: the Queen Mary and the Aquarium of the Pacific.

Light and Glare

The more urbanized areas of the SCAG region tend to produce high levels of nighttime light, daytime glare from reflective materials such as glass building facades and wide stretches of asphalt roads, and shadows on adjacent outdoor land uses from tall buildings and structures (**Table 3.1-8, Existing Sources of Nighttime Light in SCAG Region**). Suburban areas tend to produce high levels of nighttime light and daytime glare but lower levels of shadows on shade-sensitive uses due to lower building heights. Rural areas tend to produce low levels of nighttime light; low to moderate levels of daytime glare, as agricultural structures and paved roads produce some glare; and very low levels of shadows from taller structures due to the distance between structures.

Some communities are becoming more sensitive to sources of nighttime lighting and are adopting dark sky ordinances to encourage lower level lighting in order to facilitate enjoyment of the nighttime sky (as well as avoiding impacting local observatories), avoid impacts to wildlife and natural areas, encourage energy savings (e.g., City of Malibu²⁷ and County of Los Angeles²⁸).

²⁷ City of Malibu, <https://www.malibucity.org/705/Dark-Sky-Ordinance>, accessed March 20, 2019

²⁸ County of Los Angeles, http://planning.lacounty.gov/view/rural_outdoor_lighting_district_ordinance/, accessed March 20, 2019

**Table 3.1-8
Existing Sources of Nighttime Light in SCAG Region**

County	Approximate Percentage of Light and Dark Sky Area at Night	Characterization of Nighttime Light Levels
Imperial	5% light; 95% dark	Very low throughout most of county, with brightly lit areas in the urbanized southern portion of the County adjacent to the City of Mexicali, scattered in the locations of larger communities, and in the city of El Centro.
Los Angeles	50% light; 50% dark	High levels of nighttime light in the urbanized southern half of the county including the cities of Long Beach, Los Angeles, and Pomona. The cities of Santa Clarita, Palmdale and Lancaster are also brightly lit areas within the county. The darker areas include the Santa Monica Mountains, Los Padres National Forest, Angeles National Forest, and the rural desert communities in the northern portion of the county.
Orange	80% light; 20% dark	High levels of nighttime light in the county, with two darker areas: the mountains northwest of Laguna Beach and Cleveland National Forest on the eastern side of the county.
Riverside	15% light; 85% dark	Very low throughout most of county, with brightly lit areas in the urbanized western portion of the county including the city of Riverside, scattered in the locations of larger communities, and in the cities of Palm Springs and Temecula.
San Bernardino	5% light; 95% dark	Very low throughout most of county, with brightly lit areas in the urbanized southwestern portion of the county, scattered in the locations of larger communities, and in the city of Victorville.
Ventura	25% light; 75% dark	Very low throughout most of county, with brightly lit areas in the urbanized southern portion of the county, scattered in the locations of larger communities, and in the cities of Oxnard and Thousand Oaks. The darker area includes the Los Padres National Forest.

Source: NASA Earth Observatory/ NOAA NGDC. *Earth City Lights*. Available online at: <https://visibleearth.nasa.gov/view.php?id=55167>, accessed March 19, 2019.

3.1.2 REGULATORY FRAMEWORK

3.1.2.1 Federal

Section 4(f) of the U.S. Department of Transportation Act

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 that provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development.²⁹ The law, now codified in 49 U.S. Code (USC) §303³⁰ and 23

²⁹ Federal Transit Administration. *Section 4(f) of the Department of Transportation Act*. Accessed online at: <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/section-4f-department-transportation-act>, accessed August 23, 2019.

³⁰ Government Publishing Office. *49 U.S.C. 303 – Policy on lands, wildlife and waterfowl refuges, and historic sites*. Accessed online at: <https://www.govinfo.gov/app/details/USCODE-2009-title49/USCODE-2009-title49-subtitleI-chap3-subchapI-sec303>, accessed August 23, 2019.

USC §138,³¹ applies only to the U.S. Department of Transportation (U.S. DOT) and is implemented by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) through 23 Code of Federal Regulations (CFR) 774. Section 4(f) only applies if the project has a federal nexus (i.e., requires a federal permit or receives federal funds).³²

In August 2005, Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU; 23 CFR 774) amended existing Section 4(f) at both Title 49 USC Section 303 and Title 23 USC Section 138 to simplify the process and approval of projects that have only *de minimis* impacts on lands impacted by Section 4(f).³³ Under the revised provisions, once the U.S. DOT determines that a transportation use of Section 4(f) property results in a *de minimis* impact, analysis of avoidance alternatives are not required and the Section 4(f) evaluation process is complete. Section 6009 also required the U.S. DOT to issue regulations that clarify the factors to be considered and the standards to be applied when determining if an alternative for avoiding the use of a Section 4(f) property is feasible and prudent. On March 12, 2008, the FHWA issued a Final Rule on Section 4(f), which clarified the 4(f) approval process, simplified its regulatory requirements, and moved the Section 4(f) regulation to 23 CFR 774.

Intermodal Transportation Efficiency Act, Federal Highway Administration (FHWA) National Scenic Byways Program

The FHWA National Scenic Byways Program, which was established in Title 23, Section 162 of the USC under the Intermodal Transportation Efficiency Act of 1991, is a grassroots collaborative effort that designates selected highways as “All American Roads” (a roadway that is a destination unto itself). “America’s Byways” or “National Scenic Byway” is a roadway that possesses outstanding qualities that exemplify regional characteristics.³⁴

³¹ Government Publishing Office. *23 U.S.C. 138 – Preservation of parklands*. Accessed online at: <https://www.govinfo.gov/app/details/USCODE-2011-title23/USCODE-2011-title23-chap1-sec138>, accessed August 23, 2019.

³² Government Publishing Office. *23 CFR 774 – Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites (Section 4(f))*. Accessed online at: <https://www.govinfo.gov/app/details/CFR-2016-title23-vol1/CFR-2016-title23-vol1-part774>, accessed August 23, 2019.

³³ U.S. Department of Transportation, Federal Highway Administration. *Environmental review toolkit: Section 4(f)*. Available at: [http://environment.fhwa.dot.gov/\(S\(1vyep545s3wmhuubnvexkmm2\)\)/4f/index.asp](http://environment.fhwa.dot.gov/(S(1vyep545s3wmhuubnvexkmm2))/4f/index.asp), accessed November 12, 2018.

³⁴ U.S. Department of Transportation, Federal Highway Administration. *America’s Byways*. Available at: <https://www.fhwa.dot.gov/byways/>, accessed November 12, 2018.

Bureau of Land Management (BLM) Scenic Areas and Back Country Byways

The BLM designates some of its holdings as Scenic Areas and some roadways in remote areas as Back Country Byways. The BLM Back Country Byways Program was established in 1989 and is a component of the National Scenic Byways Program.³⁵ The counties of Imperial, Riverside, and San Bernardino in the SCAG region include land with such BLM designations.

United States Forest Service (USFS) National Forest Scenic Byways Program

The USDA also has a National Scenic Byways Program, independent from the BLM program, which was established in 1995 under the Intermodal Transportation Efficiency Act of 1991 to indicate roadways of scenic importance that pass through national forests.³⁶ The SCAG region includes Forest Service Scenic Byways in the counties of Los Angeles, Riverside, San Bernardino, and Ventura.

National Trails System Act

The National Trails System Act (Public Law 90-543) was established by Congress in 1968 to establish a network of scenic, historic, and recreational trails.³⁷ The Act defined four categories of national trails: recreation trails, scenic trails, historic trails, and connecting or side trails. Trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as “National Recreation Trails” by the appropriate Secretary. Since the National Trails System Act was enacted, the list of qualifying national scenic trails and national historic trails has grown from the initial two trails (the Application National Scenic Trail and Pacific Crest National Scenic Trail) to the current list, which includes 11 national scenic trails and 19 historic trails. The Pacific Crest National Scenic Trail passes through Los Angeles County, Riverside County, and San Bernardino County in the SCAG region.

National Forests Land Management Plans

Each of the four Southern California national forests (Cleveland National Forest, Los Angeles National Forest, San Bernardino National Forest, and Los Padres National Forest) is included in the Southern California National Forests Vision. The Southern California National Forests Vision (forest plans) has

³⁵ U.S. Department of the Interior, Bureau of Land Management. *Byways*. Available at: <https://www.blm.gov/programs/recreation/recreation-programs/byways>, accessed November 12, 2018.

³⁶ U.S. Forest Service. *National Forest Scenic Byways*. Available at: <http://www.fs.fed.us/recreation/programs/tourism/TourUS.pdf>, accessed November 12, 2018.

³⁷ National Park Service. 2018. *National Trails System Act Legislation*. August. Available at: <https://www.nps.gov/subjects/nationaltrailssystem/national-trails-system-act-legislation.htm>, accessed November 12, 2018.

created individual land management plans for each of the four Southern California national forests. The plans include a section for design criteria and a map of scenic integrity objectives for each national forest to guide the management of the land and its resources for the next 10 to 15 years.³⁸

3.1.2.2 State

California Department of Transportation (Caltrans) California Scenic Highways Program

The California Scenic Highways Program was created in 1963 under Senate Bill 1467, which added Sections 260 through 263 to the Streets and Highways Code, to preserve and protect scenic highway corridors from change that would reduce the aesthetic value of lands adjacent to highways.^{39,40} To be included in the state program, the highways proposed for designation must meet Caltrans' eligibility requirements and have visual merit. County highways and roads that meet the Caltrans Scenic Highways Program standards may also be officially designated. (See also discussion above in the Environmental Setting for an identification of the current state scenic and eligible highways.)

The state laws governing the Scenic Highway Program are provided in the California Streets and Highways Code, Sections 260 through 263.⁴¹ The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code. Scenic highway designation can offer the following benefits:

- Protection of the scenic values of an area;
- Enhancement of community identity and pride, encouraging citizen commitment to preserving community values;
- Preservation of scenic resources to enhance land values and make the area more attractive; and
- Promotion of local tourism that is consistent with the community's scenic values.

³⁸ U.S. Forest Service. 2005. Land Management Plan Part 1: Southern California National Forests Vision. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5166876.pdf, accessed September 05, 2019.

³⁹ California Department of Transportation. *Frequently Asked Questions*. 2018. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/faq.htm, accessed November 12, 2018.

⁴⁰ California Department of Transportation. 2008. *Scenic Highway Guidelines*. October. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf, accessed November 12, 2018.

⁴¹ California Legislative Information. *Article 2.5. State Scenic Highways [260-284]*.

A scenic corridor is the land generally adjacent to and visible from the highway and is identified by using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection (Section 261 of the Streets and Highways Code): (1) regulation of land use and intensity (density) of development, (2) detailed land and site planning, (3) control of outdoor advertising, (4) careful attention to and control of earthmoving and landscaping, and (5) the design and appearance of structures and equipment. Caltrans defines non-compliance for a Corridor Protection Program as a program that: (1) no longer complies with the five legislatively required elements under Section 261 of the Street and Highways Code, (2) no longer affords protection because required elements have been amended or changed, or (3) no longer is being enforced by the local governing body.

California Building Energy Efficiency Standards: 2013 Title 24, Part 6 (California Energy Code)

The California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption.⁴² California's Building Energy Efficiency Standards are updated on an approximately three-year cycle; the 2016 Standards went into effect on January 1, 2017. These standards include mandatory requirements for efficiency and design of lighting control devices and mandatory requirements for indoor and outdoor lighting systems in residential and non-residential buildings, and hotel or motel buildings.

Senate Bill 743

Changes to CEQA pursuant to new state law, Senate Bill No. 743 (Stats. 2013, ch. 386) (SB 743), require the Governor's Office of Planning and Research (OPR) to develop a new approach to analyzing transportation impacts under the California Environmental Quality Act and create a new exemption for certain projects that are consistent with an adopted specific plan. The exemption applies if the project is a) within a transit priority area, b) consistent with a specific plan for which an EIR has been certified, and c) consistent with an SCS. SB 743 further provides that aesthetic and parking impacts of a project shall not be considered significant impacts on the environment if the project is 1) a residential, mixed-use residential, or employment center project, and 2) located on an infill site within a transit priority area. The exemption for aesthetic impacts does not include impacts to historic or cultural resources. Local

⁴² California Building Standards Commission. 2015. About Us Available at: http://www.bsc.ca.gov/abt_bsc.aspx, accessed November 20, 2018.

governments retain their ability to regulate a project's transportation, aesthetics, and parking impacts outside of the CEQA process pursuant to local design review ordinances or other discretionary powers.⁴³

3.1.2.3 Local

The SCAG region spans six counties and 191 cities, all of which have general plans containing policies related to scenic resources (**Table 3.1-9, Summary of County and City General Plan Policies and Ordinances in the SCAG Region**). Additional plans and ordinances at the master plan level, city level, and specific plan level may also apply within the SCAG region.

**Table 3.1-9
Summary of County and City General Plan Policies and Ordinances in the SCAG Region**

County	County and City Policies and Ordinances
Imperial	<p>Scenic Vistas: None designated in County or cities</p> <p>Scenic Highways: Circulation and Scenic Highways Element in the Imperial County General Plan¹</p> <p>Visual Character/Quality: Conservation/Open Space Element of the Imperial County General Plan and City General Plans, Imperial County Code of Ordinances Chapters 12.44 Wildlife Protection and 12.48 Wild Flowers and Trees</p> <p>Light and Glare: No County-level ordinances, some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>
Los Angeles	<p>Scenic Vistas: Designated Public Viewing Areas within Santa Monica Mountains Local Coastal Program,³ some cities have designated scenic views within City General Plans</p> <p>Scenic Highways: Conservation and Open Space Element of the Los Angeles County General Plan, some cities have designated scenic highways in Conservation and Open Space Elements and Transportation Elements of City General Plans</p> <p>Visual Character/Quality: Conservation and Open Space Element of the Los Angeles County General Plan and City General Plans; County and City Tree and Landscaping Ordinances</p> <p>Light and Glare: 2012 Los Angeles County Rural Outdoor Lighting District Ordinance and some City dark sky ordinances</p> <p>Shade and Shadow: The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts⁴</p>
Orange	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Transportation Element of the Orange County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Resources Element of the Orange County General Plan and City General Plans</p> <p>Light and Glare: County-level ordinances under review,⁵ some cities have General Plan policies or ordinances</p> <p>Shade and Shadow: No County-adopted standards. The City of Los Angeles has established shade and shadow effect guidelines that are referenced by other cities in Los Angeles and Orange Counties in evaluation of impacts⁶</p>
Riverside	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Multipurpose Open Space Element of the County of Riverside General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Riverside County Ordinance No. 559 Regulating the Removal of Trees, Multipurpose Open Space Element of the County of Riverside General Plan,⁷ and City General Plans</p> <p>Light and Glare: 1988 Riverside County Ordinance No. 655, some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>

⁴³ California Legislative Information. 2013. *Senate Bill No. 743*.

County	County and City Policies and Ordinances
San Bernardino	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Circulation and Infrastructure Element of the San Bernardino County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: San Bernardino County Development Code Chapter 88.01, Plant Protection and Management, Circulation and Infrastructure Element and Conservation Element of the County of San Bernardino General Plan,⁸ and City General Plans</p> <p>Light and Glare: San Bernardino County Night Sky Protection Ordinance; some cities have General Plan policies or Ordinances²</p> <p>Shade and Shadow: No County-adopted standards</p>
Ventura	<p>Scenic Vistas: None designated</p> <p>Scenic Highways: Resources Appendix of the Ventura County General Plan, some cities have designated scenic highways identified in General Plans</p> <p>Visual Character/Quality: Ventura County Tree Protection Ordinance, Resources Element of the Ventura County General Plan, and City General Plans</p> <p>Light and Glare: Some cities have General Plan policies or Ordinances (no County-level ordinances)²</p> <p>Shade and Shadow: No County-adopted standards</p>

Source:

- (1) Imperial County Planning & Development Services. Approved January 29, 2008. Circulation and Scenic Highways Element. Available at: [http://www.icpds.com/CMS/Media/Circulation-Scenic-Highway-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Circulation-Scenic-Highway-Element-(2008).pdf)
- (2) Skykeepers. Outdoor Lighting Regulations in California. Available at: <http://www.skykeepers.org/ordsregs/califord.html>
- (3) Los Angeles County Department of Regional Planning. Santa Monica Mountains Local Coastal Program. Available at: <http://planning.lacounty.gov/coastal/smm> Santa Monica Mountains Local Coastal Program map with public viewing areas available at: http://planning.lacounty.gov/assets/upl/project/coastal_adopted-map3.pdf
- (4) City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources. Available at: <http://planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf>
- (5) Skykeepers. Outdoor Lighting Regulations in California. Available at: <http://www.skykeepers.org/ordsregs/califord.html>
- (6) City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Chapter A, Aesthetics and Visual Resources. Available at: planning.lacity.org/Documents/MajorProjects/CEQAThresholdsGuide.pdf
- (7) Riverside County. County of Riverside General Plan Chapter 5: Multipurpose Open Space Element. Available at: https://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf
- (8) San Bernardino County, Land Use Services Division. [Adopted 13 March 2007] Amended 24 April 2014. County of San Bernardino 2007 General Plan. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

3.1.3 ENVIRONMENTAL IMPACTS

3.1.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts to visual resources, if the Plan would result in any of the following:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of public views (public views are those that are experienced from publicly accessible vantage points). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.3.2 Methodology

To assess potential impacts to aesthetics adjacent to transportation corridors, a geographic information system (GIS) was used to analyze major highway, transit, and freight rail projects in the Plan.⁴⁴ The GIS analysis determined that transportation projects included in the Plan could affect scenic vistas, scenic highway corridors, visual character, nighttime light and daytime glare levels in the SCAG region. Indirect impacts were evaluated based on land use pattern assumptions that protected lands would remain protected and strategies intended to shift new growth away from wildlife habitat areas and concentrate growth in existing urbanized areas or opportunity areas such as high-quality transit areas (HQTAs) (near transit projects), livable corridors, and neighborhood mobility areas that are well served by transit and are conducive to higher-density housing and walkable, mixed-use communities in the future.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.1.3.4 Impacts and Mitigation Measures

Impact AES-1 Potential for the Plan to have a substantial adverse effect on a scenic vista.

Significant and Unavoidable Impacts - Mitigation required.

Implementation of transportation projects contained in the Plan and development projects anticipated to occur under the Plan may result in the conversion of open space or vacant lands to new uses. Areas potentially affected include designated open space visible from USFS, Caltrans, county, and city designated scenic vistas.

⁴⁴ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

Implementation of transportation projects contained in the Plan and development projects anticipated to occur under the Plan could result in both short-term and long-term visual impacts by blocking views from Scenic Byways or Caltrans, county, and/or city designated scenic vista points. For purposes of this PEIR, public views (i.e., from look-outs, roadways, parks, and other public places) are analyzed for visual impacts. High scenic integrity is a USFS management objective for conditions where human activities are not visually evident and the valued (desired) landscape character “appears” intact or unaltered.⁴⁵

Construction of new transportation facilities, expansion of existing facilities, potential development, or growth in previously undisturbed sites could block or impede views of scenic resources in a given area. For example, construction of highways, connectors, interchanges, goods movement roadway facilities, and sound walls could block or impede views of mountains, oceans, or rivers. Similarly, construction of development projects in existing urbanized areas have the potential to have the same effects, as many valued visual resources are located within urban areas.. Effects from anticipated growth would result in new development constructed in existing urbanized areas where views of a scenic resources are blocked. This could occur as a result of increased density in HQTAs or other areas with views of scenic elements such as the San Bernardino, Santa Monica, or San Gabriel Mountains.

Construction impacts, although short-term, could also result in views blocked by construction equipment and scaffolding. Removal of landscaping, temporary route changes, temporary signage, exposed excavation activities and slope faces with contrasting soil colors, and construction staging areas could also block views. Use of Best Management Practices (BMPs) during construction such as locating construction staging areas in less visible locations (given other environmental considerations such as avoiding sensitive habitat, etc.), fencing and/or screening staging areas, and revegetation of exposed slopes at the earliest possible opportunity would minimize impacts. However, even with these typical practices, short-term visual impacts would often be unavoidable.

Development in floodplains, wetlands, wooded areas, coastal bluffs, lagoons, reservoirs, regional parks, recreational areas, agricultural lands, or in areas that include steep slopes or scenic vistas has the potential to adversely impact the region’s visual resources by blocking such scenic vistas. Specifically, several transportation projects included in the Plan would have the potential to create a significant visual impact, such as highway projects involving noise barriers that can block views; construction that involves cut and fill within the viewshed of Caltrans, county, or city designated scenic vistas; or construction of tall structures in urban areas that obstruct views (see **Figure 2.0-15, Major Highway Projects**, **Figure 2.0-17, Major HOV Projects**; and **Figure 2.0-18, Major Rail Projects**, in **Section 2.0, Project Description**).

⁴⁵ United States Department of Agriculture, Forest Service (USFS). September 2005. Land Management Plan, Part 3: Design Criteria for Southern California National Forests. Available at: http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5166878.pdf

Additionally, grade separated facilities for rail or buses, goods movement roadway facilities, and widened roads with high-occupancy vehicle (HOV) and high-occupancy toll (HOT) lanes and connectors could also result in visual impacts if they block or impede vistas of surrounding scenic resources during and after construction.

Highway widening projects such as SR-74 in Riverside County and I-10 in San Bernardino County and the SR-57/SR-60 Interchange improvement in Los Angeles County also have the potential to impact visual resources. Creation of aerial structures over the top of existing transportation features, such as connectors, has a very high potential to create visual impacts to panoramic views, views of significant landscape features, or landforms.

Several transit projects, if implemented, would affect the region's visual environment. As discussed above, the Plan includes transportation projects involving both new facilities and modifications to existing facilities. The Plan includes 19 major transit capital projects. New light rail transit projects in Los Angeles County, such as the Crenshaw LAX Corridor, or the West Valley Connector in San Bernardino could affect views, especially if all or parts of these lines are elevated. Many of the transit projects included in the Plan, if implemented, would be located in existing urbanized areas and new growth opportunity areas that would block views of historic resources. A few transportation projects, such as the Regional Connector, would tunnel underground and not affect scenic vistas.

Goods movement highway facilities, such as HOT and toll lanes in Orange County, are examples of transportation projects that would obstruct scenic views. Adding new goods movement highway facilities may require construction of new roadway facilities and acquisition of right-of-way property that would result in the loss of vegetation along these routes and changes in topography of the given area depending on the route alignment. Elevated highway and roadway facilities would block views of the San Gabriel Mountains, Whittier Hills, Puente Hills, San Bernardino Mountains, and Jurupa Mountains, depending on the alignment chosen.

Construction of transportation projects and facilities that involve modifications such as widening or upgrading existing roadways and safety improvements would generally not significantly impact the visual environment. These modification projects would most likely occur within existing highway and roadway facilities, although they could require acquisition of right-of-way property. Such changes likely would not block or impede views of scenic resources or views from designated scenic vistas beyond existing conditions.

Modifications to existing transportation projects consist of improvements to existing highways, HOV lanes, HOT lanes, toll lanes, arterials, interchanges, bridges and grade crossings, sound wall retrofitting,

and improvements to transit rail and bus services. Impacts from transportation modification projects would generally be less substantial than those created by new transportation projects. These improvements would occur on existing facilities and are not assumed to be designed at a higher elevation and therefore would not be expected to block views of scenic resources. The Plan also includes active transportation projects such as regional greenway networks, regional and local bikeway networks, coastal trails access, and safe routes to school. In many cases, such projects would not only improve access to scenic parts of the region, such as coastal areas, but would also add visual improvements to the region through landscaping, lighting, and sustainable or a complete street approach to design resulting in beneficial impacts.

However, due to the large number of transportation projects encompassed by the Plan, it is expected that new and expanded highway and roadway facilities, new and expanded transit projects, and new and expanded goods movement projects, or other facilities would result in significant impacts to scenic vistas in the region. Similarly, development patterns that may occur if the land use strategies are implemented under the Plan have the potential to impact scenic vistas by obstructing views. Therefore, the Plan would result in a significant impact to scenic vistas and mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

SMM AES-1: SCAG shall facilitate minimizing impacts to scenic vistas through cooperation, information sharing regarding the locations of designated scenic vistas, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including REVISION, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as sharing of associated online training materials. Caltrans and lead agencies, such as county and city planning departments, shall be consulted during this update process.

Project Level Mitigation Measures

PMM AES-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts to scenic vistas, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Use a palette of colors, textures, building materials that are graffiti-resistant, and/or plant materials that complement the surrounding landscape and development.
- b) Use contour grading to better match surrounding terrain. Contour edges of major cut-and-fill to provide a more natural looking finished profile.
- c) Design new corridor landscaping to respect existing natural and man-made features and to complement the dominant landscaping of the surrounding areas.
- d) Replace and renew landscaping along corridors with road widenings, interchange projects, and related improvements.
- e) Retain or replace trees bordering highways, so that clear-cutting is not evident.
- f) Provide new corridor landscaping that respects and provides appropriate transition to existing natural and man-made features and is complementary to the dominant landscaping or native habitats of surrounding areas.
- g) Reduce the visibility of construction staging areas by fencing and screening these areas with low contrast materials consistent with the surrounding environment, and by revegetating graded slopes and exposed earth surfaces at the earliest opportunity;
- h) Use see-through safety barrier designs (e.g. railings rather than walls)

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on scenic vistas could be significant and unavoidable even with implementation of mitigation.

Impact AES-2 Potential to substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Significant and Unavoidable Impacts - Mitigation Required.

The Caltrans State Scenic Highway Program was created by the State Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are provided in the California Streets and Highways Code, Section 260.

The State Scenic Highway System includes a list of highways that have been designated by Caltrans as scenic highways or are eligible for designation as scenic highways. These highways are designated in Section 263 of the Streets and Highways Code. Scenic highway designation can offer the following benefits:

- Protection of the scenic values of an area;
- Enhancement of community identity and pride, encouraging citizen commitment to preserving community values;
- Preservation of scenic resources to enhance land values and make the area more attractive; and
- Promotion of local tourism that is consistent with the community's scenic values.

A scenic corridor is the land generally adjacent to and visible from the highway and is identified by using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection: regulation of land use and density of development; detailed land and site planning; control of outdoor advertising; careful attention to, and control of, earthmoving and landscaping; and careful attention to design and appearance of structures and equipment.

The transportation projects considered in the Plan do not include projects that would require the acquisition or development of previously undisturbed vacant land, including designated open space that is visible from Officially Designated State Scenic Highways. The Plan does not include transportation projects within the immediate vicinity of any Officially Designated State Scenic Highways, or Officially Designated County Scenic Highways. Major highway projects within the immediate vicinity of roadways eligible for State Scenic Highway designation include:

- HOV Lanes (I-5, US-101, I-15)
- Express Lanes (I-15, I-10)
- Mixed Lane Flow Projects (SR-118)

At SR-74, the construction of a new freeway segment that will connect to the eligible scenic highway near Warren Road may require attention to and control of earthmoving and landscaping in accordance with Section 261 of the Streets and Highways Code.

If a project is proposed in a scenic corridor, that project would be required to comply with applicable rules and regulations governing the protection of that area as a scenic resource. As most of the transportation projects in the Plan are minor modifications or maintenance within the region's urban areas, most scenic routes would not be affected.

While there are no restrictions on scenic highway projects, local agencies and Caltrans must work together to coordinate projects and ensure the protection of the scenic value to the greatest extent possible. For example, state law (Section 320 of the California Public Utilities Code) requires the undergrounding of all visible electricity distribution lines within 1,000 feet of a scenic highway.⁴⁶ In some cases, local governments have their own land use and site planning regulations to project scenic values along a given corridor.

Additionally, the Plan includes the land use strategies that encourage more compact growth development patterns in the region and aim to shift growth away from wildlife habitat areas toward existing urbanized areas with transportation infrastructure in place and opportunity areas that are conducive to more mixed-use and higher-density housing in the future. Several HQTAs extend along scenic highways and, as such, would have the potential to impact scenic highways or vistas. Impacts would occur if anticipated development were to detract or diminish the elements that contribute to the scenic nature of the highway, such as a modern office building or retail center located along such a highway that could be incongruous with the surrounding scenic nature if not properly shielded from view.

The general location of Plan transportation projects in urban areas and anticipated new growth and development focused within HQTAs avoids the potential to substantially damage scenic resources within state-designated scenic highways. HQTAs would be located near two State-designated scenic highways that are already developed: at the northeastern end of the portion of SR-74 in Riverside County, which is characterized by single-family residences and commercial development in the City of Palm Desert, and on the northern side of the western portion of SR-91 in Orange County, which is characterized by single-family residences, commercial and industrial development, the Santa Ana River Lake, Anaheim Lake, and a few parks (see **Figure 2.0-11, High-Quality Transit Areas Throughout the SCAG Region in 2045**; see **Figure 3.1-2, Land Use Pattern in the SCAG Region**). HQTAs would not be located near the State-

⁴⁶ California Department of Transportation. October 2008. *Scenic Highway Guidelines*. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/guidelines/scenic_hwy_guidelines_04-12-2012.pdf

designated scenic highways that are characterized by rural uses and open space, such as Angeles Crest Highway (Sr-2), which is located within the Angeles National Forest that precludes future development, or State Route 243, which is predominantly located within the San Bernardino National Forest. As these HQTAs in proximity to State-designated scenic highways are already developed, the land use strategies considered in the Plan would not be expected to substantially damage scenic resources within an officially designated State scenic highway. Implementation of the Plan's land use strategies would not be expected to substantially damage historic buildings within these scenic highway corridors because, although a small portion of the single-family residences were constructed in the 1950s, the majority of development in Palm Desert along SR-74 occurred more recently in the 1970s, 1980s, and 1990s; similarly, although the area was developed for agricultural use in the 1940s and 1950s, the majority of single-family residential, commercial, and industrial development to the north of SR-91 occurred in the 1970s, 1980s, 1990s.⁴⁷

The Plan would also have the potential to impact rock outcroppings or other scenic elements such as historic resources within eligible state scenic highways. As discussed above, many of the transportation projects and the HQTAs are in areas with designated scenic resources including historic buildings and scenic rock outcroppings. Therefore, there is potential for the Plan to affect these resources. As such, impacts would be significant and unavoidable, and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AES-1**.

Project Level Mitigation Measures

See **PMM AES-1**.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and

⁴⁷ Nationwide Environmental Title Research, LLC. Accessed 23 November 2015. Historic Aerials. Available at: <http://www.historicaerials.com/>

feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to scenic resources could be significant and unavoidable even with implementation of mitigation.

Impact AES-3 Potential to substantially degrade the existing visual character or quality of public views (public views are those that are experienced from publicly accessible vantage points). In an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

Significant and Unavoidable Impacts - Mitigation required.

Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to degrade the visual character of project sites, constituting a significant impact. The SCAG region is comprised of approximately 38,000 square miles, many of which are in their natural state or are primarily rural. Transportation projects outside of the urban core would add visual elements of urban character to these areas. Some transportation projects are planned in rural parts of the region. Transportation projects that require new construction as well as projects that require modification would add visual elements of urban character to these rural areas. Proposed enhancements to existing transportation facilities and construction of new highways, roadways, and other transit facilities, as well as new development or densification of residential, commercial, and similar land uses would create adverse visual impacts by adding visual elements of urban character to existing rural or open spaces. This would occur where new alignments or road widening pass through primarily rural, agricultural, and/or open space areas, and the contrast would potentially result in a significant impact to visual quality (e.g., road widening, transit or rail projects). The Plan includes transportation projects that would intersect with the Pacific Crest National Scenic Trail in Los Angeles, San Bernardino, and Riverside Counties (i.e., mixed lane flow projects, HOT Lanes), which would affect the visual character of the scenic trail at these locations.

The Plan also includes transportation strategies such as TDM and emphasis on complete streets. While these strategies have the potential to change the visual character of an existing community, for example, by adding bike lanes to an existing roadway, some changes, such as bus rapid transit have the potential to have adverse impacts.

As described in **Section 3.14, Population, Housing, and Employment**, the land use strategies included in the Plan would focus new growth in existing urbanized areas and opportunity areas like HQTAs that are supported by existing transportation facilities and are conducive to walkable and/or transit-oriented land

patterns. The Plan includes transportation projects and land use strategies that have the potential to affect the patterns of new growth in the region. As discussed in **Section 3.14**, the total SCAG region population is expected to increase by approximately 3.6 million people by 2045. Additionally, the land use strategies included in the Plan assume a significant increase in small-lot, single- and multi-family housing that is expected to mainly occur in infill and mix use locations near transit infrastructure (HQTAs and transit priority areas [TPAs]). However, the Plan estimates a conversion of approximately 41,546 acres of greenfields to developed land, which would ultimately result in the conversion of some areas to a more urban character

The Plan focuses most new housing and job growth in HQTAs and other opportunity areas in existing main streets, downtowns, and commercial corridors. This strategy supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures. However, the densification of uses, even in existing urbanized areas, would result in changes to the overall visual character. Increased urbanization through taller buildings or more compact development would have a similar effect by changing the low-scale nature of a neighborhood.

In urbanized areas, roadways and ancillary improvements such as sound walls included in the Plan would also result in adverse visual impacts depending on the scale of improvements and location of sensitive viewers, which includes users of scenic routes, gathering places, rest areas and vista points, and residents who live near scenic resources. Highway widening and the construction of HOV/HOT and managed lanes and park-and-ride lots may result in some loss of existing freeway landscaping. Although these activities generally occur in urbanized environments, these actions would have an adverse effect on visual quality, depending upon nearby sensitive viewers.

Significant impacts would also occur if proposed alignments or transportation facilities require large cut-and-fill slopes or noise barriers, whether in previously undeveloped areas or in already developed urban areas. Careful alignment and design, conformance with local grading ordinances, and installation of landscaping to ensure compatibility with surrounding development would be expected to reduce visual impacts to below the level of significance at the project level.

Grade separated facilities, due to elevation and scale, could have a substantial adverse visual impact on surrounding land uses during and after construction. The elevation and scale of the proposed grade separated facilities could create a significant contrast with the overall visual character of the existing landscape setting. However, the degree of the impact would be dependent on the scale of the project itself with some projects resulting in minimal if any visual impact. Transportation projects that involve the

widening or upgrading of existing roadways can be designed to complement the existing system and, therefore, would involve lesser changes to the visual character of the existing landscape setting.

Transit centers and park-and-ride lots would be constructed primarily within the heavily urbanized portions of the SCAG region and consequently affect a large number of viewers. Transit centers would be expected to be dominant visual elements due to their fixed structures, including terminals, service facilities, and lighted parking lots. While these facilities would become integrated with the urban setting over time, their initial effect would result in a change in visual quality. Elevated and at-grade transit facilities such as the Gold Line Extension have the greatest potential to change the visual character of an area, while underground rail facilities such as the Metro Regional Connector and the Purple Line Extension would have fewer impacts.

Nonetheless, transportation projects and strategies, and the land use strategies in the Plan have the potential to result in changes to the visual character of existing landscapes or natural areas. As such, impacts would be significant and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AES-1**.

Project Level Mitigation Measures

PMM AES-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Minimize contrasts in scale and massing between the projects and surrounding natural forms and development, minimize their intrusion into important viewsheds, and use contour grading to better match surrounding terrain in accordance with county and city hillside ordinances, where applicable.
- b) Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard-edged, linear transportation corridors.

- c) Require development of design guidelines for projects that make elements of proposed buildings/facilities visually compatible or minimize visibility of changes in visual quality or character through use of hardscape and softscape solutions. Specific measures to be addressed include setback buffers, landscaping, color, texture, signage, and lighting criteria.
- d) Design projects consistent with design guidelines of applicable general plans.
- e) Require that sites are kept in a blight/nuisance-free condition. Remove blight or nuisances that compromise visual character or visual quality of project areas including graffiti abatement, trash removal, landscape management, maintenance of signage and billboards in good condition, and replace compromised native vegetation and landscape.
- f) Where sound walls are proposed, require sound wall construction and design methods that account for visual impacts as follows:
 - use transparent panels to preserve views where sound walls would block views from residences;
 - use landscaped earth berm or a combination wall and berm to minimize the apparent sound wall height;
 - construct sound walls of materials whose color and texture complements the surrounding landscape and development;
- g) Design sound walls to increase visual interest, reduce apparent height, and be visually compatible with the surrounding area; and landscape the sound walls with plants that screen the sound wall, preferably with either native vegetation or landscaping that complements the dominant landscaping of surrounding areas.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail,

including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to visual character could be significant and unavoidable even with implementation of mitigation.

Impact AES-4 **Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.**

Significant and Unavoidable Impacts – Mitigation Required.

Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to create new substantial sources of light or glare, constituting a significant impact. Light and glare effects often occur in urban areas. Glare is typically a daytime condition where the sun reflects off a particular building, while lighting effects often occur when new nighttime sources of lighting are introduced into an area. Both of these conditions would occur as a result of the Plan, which includes transportation projects that would introduce nighttime sources of lighting as well as anticipated development, buildings, and vehicles that would produce sources of glare. Anticipated sources of light and glare as a result of the transportation projects in the Plan include nighttime construction lights, security lighting, and operation lighting such as vehicles, buildings, parking lots, and walkways. The land use strategies in the Plan encourage compact development and development in HQTAs with existing high levels of nighttime light. Similarly, many transportation projects would be located in urban areas. However, some major transportation projects could occur in areas that currently have low levels of nighttime light. The proposed transportation projects included in the Plan would have the potential to create a new source of substantial light or glare which would adversely affect day or nighttime views in jurisdictions where there are no ordinances protecting night skies. Impacts would be significant and unavoidable and mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

SMM AES-2: SCAG shall facilitate minimizing impacts on aesthetics related to new sources of light or glare through cooperation, information sharing regarding guidelines and policies, design approaches, building materials, siting, and technology, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online training materials. Lead agencies, such as county and city planning departments, shall be consulted during this update process.

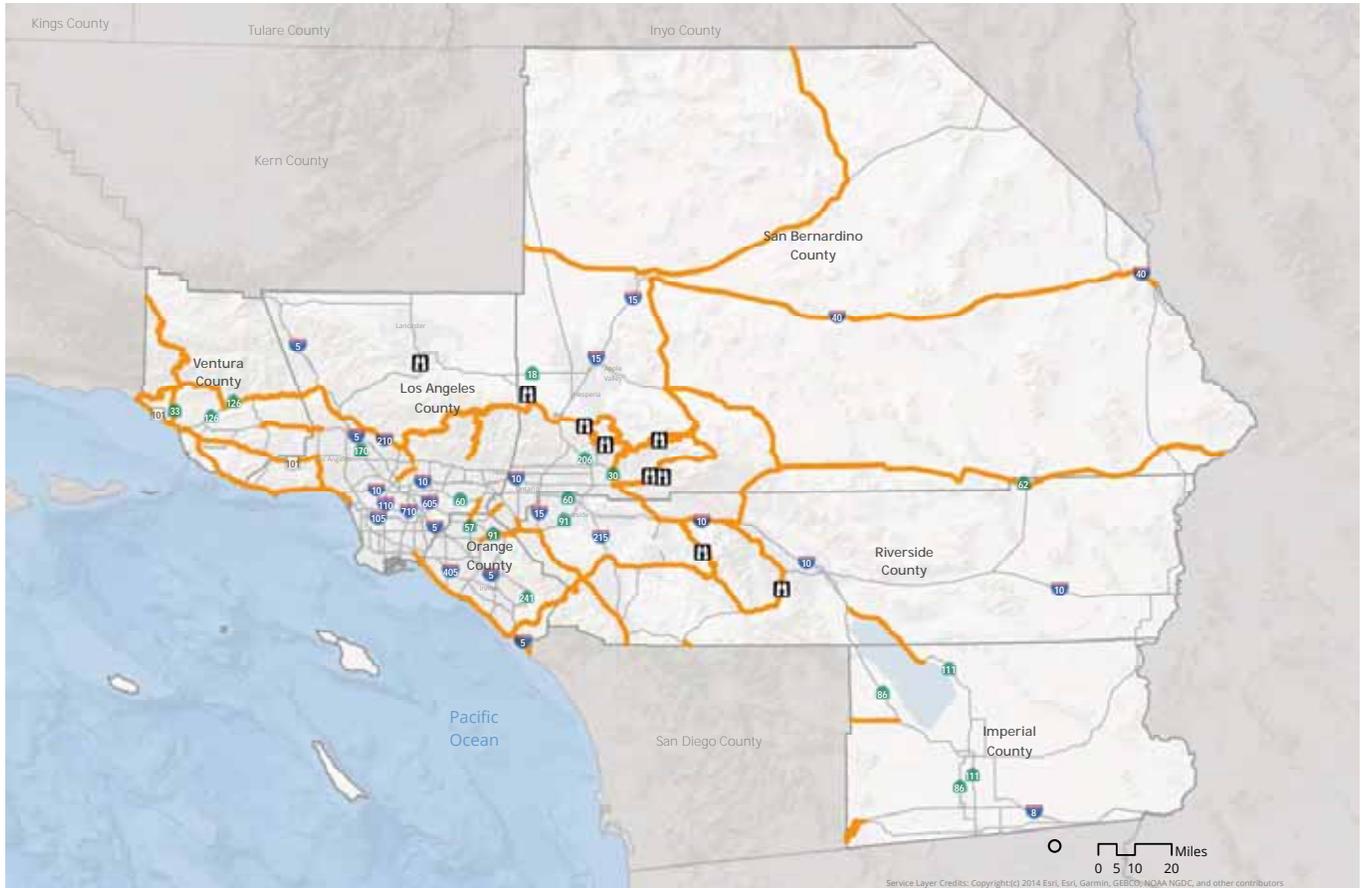
Project Level Mitigation Measures

PMM AES-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Use lighting fixtures that are adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties.
- b) Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m.
- c) Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting.
- d) Use unidirectional lighting to avoid light trespass onto adjacent properties.
- e) Design exterior lighting to confine illumination to the project site, and/or to areas which do not include light-sensitive uses.
- f) Provide structural and/or vegetative screening from light-sensitive uses.
- g) Shield and direct all new street and pedestrian lighting away from light-sensitive off-site uses.
- h) Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces.
- i) Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to light or glare could be significant and unavoidable even with implementation of mitigation.



[Vista Point Scenic Highway

SOURCE: California Department of Transportation, 2013; TomTom Point of Interests, 2018

FIGURE 3.1-2

State Designated and Eligible Scenic Highways and Vista Points



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3.2 AGRICULTURE AND FORESTRY

This section of the Program Environmental Impact Report (PEIR) describes the existing agricultural and forestry resources within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect agriculture and forestry resources, and analyzes the significance of the potential impacts to agricultural and forestry resources that could result from development of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.2.1 ENVIRONMENTAL SETTING

3.2.1.1 Definitions

Types of farmlands, as well as other terms pertinent to the discussion of agricultural resources, are defined below.

Farmland: §21060.1(a) of CEQA (Public Resources Code §§21000-21177) delineates the consideration of agricultural land to include “prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria, as modified for California,” and is herein collectively referred to as “Farmland.” The following are categories mapped by the CDC:¹

Prime Farmland: Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland: Farmland of lesser quality soils used for the production of the state’s leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as

¹ California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf, accessed October 25, 2018.

found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Grazing Land: Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Urban and Built-Up Land: Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

Other Land: Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

Forest: §12220(g) of CEQA defines forest land as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

Timberland: Public Resources Code §4526 defines Timberland as "land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees."

Timberland Production Zone: California Government Code Section 51104(g) defines a Timberland Production Zone (TPZ) as "an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h). With respect to general plans of cities and counties, 'timberland preserve zone' means 'timberland production zone.'"

3.2.1.2 Existing Conditions

This section characterizes the baseline conditions for Important Farmland, agricultural use, Williamson Act contracts, forest land, and timberland, including Timberland Production zones.

Agricultural Lands

California ranked first among the 50 states in 2017 in terms of net farm income at \$17.7 billion.² Agricultural and related products are also one of California's largest exports to the rest of the world. The SCAG region maintains over 2.6 million acres of agricultural land, with over 100,000 parcels of land designated as farmland.³ For purposes of this analysis and in accordance with SB 375, "farmland" means farmland that is outside all existing city spheres of influence or city limits as of January 1, 2008, and is one of the following:

- Classified as Prime or Unique Farmland or Farmland of Statewide Importance.
- Farmland classified by a local agency in its general plan that meets or exceeds the standards for Prime or Unique Farmland or Farmland of Statewide Importance.⁴

Agricultural areas in the region provide benefits like flood control, groundwater recharge, energy production, and employment opportunities. The California Department of Conservation maps farmland throughout California under the Farmland Mapping and Monitoring Program (FMMP).⁵ The FMMP emphasizes Important Farmland, which is comprised of four subcategories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined above.

Table 3.2-1, SCAG Region by Land Use Category (2016)⁶ breaks down the acres of agricultural lands, urban and built up land, other land, and water area by county within the SCAG region. San Bernardino County contains the most agricultural land by far, with farms and grazing lands making up over 60 percent of total inventoried area. Riverside and Imperial counties also contain substantial amounts of agricultural land, with farm and/or grazing lands comprising approximately half of the total acreage in each county. Orange County and Los Angeles County have the least amount of agricultural lands in the

² Farm Bureau. 2018. *Reviewing State-Level 2017 Net Farm Income*. September. Available online at: <https://www.fb.org/market-intel/reviewing-state-level-2017-net-farm-income>, accessed March 19, 2019.

³ Department of Conservation. 2016. *Farmland Mitigation and Monitoring Program (FMMP)*. Available at: <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>, accessed October 25, 2018.

⁴ California Legislative Information. 2008. *Senate Bill No. 375*.

⁵ California Department of Conservation. *Farmland Mapping & Monitoring Program*. Available online at: <https://www.conservation.ca.gov/dlrp/fmmp/>, accessed August 14, 2019.

⁶ 2016 data is the most recently available data for farmland mapping.

SCAG region, which is unsurprising as they contain the most Urban and Built-up Land in the region, in both total acreage and percent acreage relative to their total size.

**Table 3.2-1
SCAG Region by Land Use Category (2016)**

County	Land Use Category (Acres)						Total Area Inventoried
	Farmland	Grazing Land	Agricultural Land Subtotal	Urban and Built-up Land	Other Land	Water Area	
Imperial	528,471	0	528,471	37,413	461,892	749	1,028,525
Los Angeles	27,390	239,037	266,427	182,442	671,873	3,318	1,124,060
Orange	5,715	37,114	42,829	292,689	173,173	1,026	509,717
Riverside	419,835	110,203	530,038	334,445	1,017,635	62,361	1,944,479
San Bernardino	20,393	898,633	919,026	286,407	243,604	510	1,449,547
Ventura	118,508	197,859	316,367	105,966	129,688	3,938	555,959
Totals	1,120,312	1,482,826	2,603,158	1,239,362	2,697,865	71,902	6,612,287

Source: California Department of Conservation, *Farmland Mapping and Monitoring, 2016*.

Agricultural lands in the SCAG region represent a declining trend, with the exception of Ventura County that increased marginally from 2014-2016. The conversion of irrigated farmland to urban land^{7,8} is primarily due to urbanization. Non-irrigated and other land that was converted to urban land were primarily due to the construction of new homes, commercial and industrial buildings and groundwater recharge or water control ponds.⁹

Table 3.2-2, Important Farmland within the SCAG Region (2016),¹⁰ shows the breakdown of Important Farmland in the SCAG region. Nearly 17 percent of the area inventoried by the FMMP classifies as Important Farmland.

⁷ Urban Land includes residential, industrial, recreational, infrastructure and institutional uses.

⁸ Irrigated Farmland includes most irrigated crops grown in California. When combined with soil data, these farmed areas become the Important Farmland (IFL) categories of Prime Farmland, Farmland of Statewide Importance & Unique Farmland. Because of the nature of the IFL definitions, some irrigated uses, such as irrigated pastures or nurseries, may not be eligible for all three IFL categories.

⁹ Non-irrigated land uses include grazing areas, land used for dryland crop farming, and formerly irrigated land that has been left idle for three or more update cycles.

¹⁰ 2016 is the most recently available data as of August 2019

Table 3.2-2
Important Farmland within the SCAG Region (2016)

County	Farmland Designation (Acres)					
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Important Farmland Total	Percent of Total Area Inventoried
Imperial	190,205	297,272	2,070	38,924	528,471	51.4
Los Angeles	22,613	770	962	3,045	27,390	2.4
Orange	2,391	411	2,913	0	5,715	1.1
Riverside	117,484	43,757	32,565	226,029	419,835	21.6
San Bernardino	11,323	5,770	2,738	562	20,393	1.4
Ventura	40,976	32,992	28,950	15,590	118,508	21.3
Totals	384,992	380,972	70,198	284,150	1,120,312	100

Source: California Department of Conservation, Division of Land Resource Protection, 2016.

Notes:

(1) Figures are generated from the GIS data. Files dating from 1990-2016.

As shown above, in **Table 3.2-2**, Imperial County contains the most Prime Farmland and Farmland of Statewide Importance, due to a favorable climate, productive soils, and irrigation water from the All-American Canal. The County produced approximately \$2.1 billion in agricultural crops and commodities in 2016. Major crops grown in Imperial County include vegetables, melons, and fruit and nut crops. Although Imperial County does not contain state-designated Important Grazing Land, cattle are the County's number one commodity, and livestock produced approximately \$400 million (19 percent) of the county's agricultural income in 2016.¹¹ **Figure 3.2-1, Farmland in the SCAG Region**, displays the regional distribution of Important Farmlands within the SCAG region.

As shown in **Table 3.2-3, SCAG Region Average Annual Acreage Change (1984-2016)**, the SCAG region lost an average of 9,148 acres of farmland per year of Important Farmland from 1984 to 2016.¹²

¹¹ Imperial County. 2017. *2016 Imperial County Agricultural Crop and Livestock Report*. Available online at: https://www.co.imperial.ca.us/ag/docs/spc/crop_reports/2016_Imperial_County_Crop_and_Livestock_Report.pdf, accessed October 25, 2018.

¹² California Department of Conservation, *Farmland Mapping and Monitoring Program: County Data*. Historic land use data for all six counties in the SCAG region. 1984-present (2016). Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx

**Table 3.2-3
SCAG Region Average Annual Acreage Change (1984-2016)**

County	1984 Important Farmland Acreage	2016 Important Farmland Acreage	1984-2016 Net Acreage Lost	1984-2016 Net Acreage Lost (percent)	Average Annual Acreage Lost
Imperial	562,132	528,471	33,661	6%	1,052
Los Angeles	60,877	27,390	33,487	55%	1,046
Orange	26,535	5,715	20,820	78%	651
Riverside	561,542	419,835	141,707	25%	4,428
San Bernardino	69,575	20,393	49,182	71%	1,537
Ventura	132,388	118,508	13,880	10%	434
Totals	1,413,049	1,120,312	292,737	21%	9,148

Source:

California Department of Conservation, Farmland Mapping and Monitoring Program: County Data. Historic land use conversion data for all six counties in the SCAG region, 1984-present (2016). Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx

Los Angeles County is the most urbanized county in the SCAG region and contains only 2.4 percent of Important Farmland. Despite this, the County reaped over \$135 million from agricultural commodities in 2017 (the most recent data available). Nursery products are the number one commodity in Los Angeles County, followed by vegetable crops, and field crops.¹³

Orange County was once a rural community that relied primarily on its agricultural economy that included oranges, apricots, and walnuts. Similar to Los Angeles County, Orange County has become heavily urbanized and now contains the lowest acreage of Important Farmland of any county in the SCAG region. Despite this, Orange County produced \$114 million from agricultural crops and commodities, the majority of which was generated by nursery crops, as well as tree fruit and berry crops.¹⁴

Riverside County contains the most Unique Farmland and Farmland of Local Importance within the region, due to its soil quality, moisture, and growing season that sustain high value crops. In 2016,

¹³ Los Angeles County. 2018. *2017 Los Angeles County Crop and Livestock Report*. Available online at: http://file.lacounty.gov/SDSInter/acwm/1052741_2017FINALCROPREPORT.pdf, accessed July 29, 2019

¹⁴ Orange County. 2017. *Orange County 2016 Annual Crop Report*. Available online at: <http://www.ocagcomm.com/documents/2016OrangeCountyCropReport.pdf>, accessed March 19, 2019.

Riverside County grossed approximately \$1.3 billion from agricultural production, down 2 percent from 2015. Major crops in Riverside County include summer squash, okra, eggplant, and melon.¹⁵

San Bernardino, despite having the most agricultural land in the SCAG region, has almost the least amount of Important Farmland, second only to Orange County. This is due to the massive amount of Grazing Land that constitutes most of the agricultural land in San Bernardino County. In 2017, the County's gross value of agricultural production totaled approximately \$465 million. Milk is the number one commodity and the meat from cattle and calves is the number two commodity for the County.¹⁶

Ventura County has some of the most productive Prime and Unique Farmlands in the nation. Over 21 percent of inventoried land in the County is designated as Important Farmland and in 2016, the County generated \$2.1 billion from agricultural commodities. Strawberries and lemons are the top crops in the County, followed by nursery stock, celery, and raspberries.¹⁷

Forestry Resources

Forest lands within the SCAG region include the Angeles National Forest (Los Angeles and San Bernardino counties), San Bernardino National Forest (San Bernardino and Riverside counties), Los Padres National Forest (Los Angeles and Ventura County), and the Cleveland National Forest (Orange County and Riverside County), as well as forest lands within the open space zones of Imperial and Los Angeles counties (**Figure 3.2-2, Forest Lands in SCAG Region**).

Within the SCAG region, forests growing at higher elevations (approximately 3,000 feet and above) are dominated by conifers. Montane conifer forests are often comprised of white fir and sugar pine, while mountain juniper and lodgepole pine thrive on open slopes and flats, respectively. Interior and Canyon live oak is also found in areas of higher elevation, as are big cone-fir trees, and Coulter, ponderosa and Jeffrey pines. The San Bernardino Mountains maintain the highest elevation forests in the region, which are dominated by limber pine.

Forests and woodlands in lower elevations of the SCAG region are largely oak-dominated, supporting Engelmann and valley oak. Lower woodlands also consist of a mix of Coulter pine, canyon live oak, black

¹⁵ Riverside County. 2017. *Agricultural Production Report 2016*. Available online at: <https://www.rivcoawm.org/Portals/0/Publications/Crop-Reports-EntireCounty/2016-crop-report.pdf>, accessed March 19, 2019.

¹⁶ San Bernardino County. 2017. *Annual Crop Report 2016*. Available online at: <http://cms.sbcounty.gov/Portals/13/CropReports/2016CropReport.pdf>, accessed August 14, 2019.

¹⁷ Ventura County. 2016. 2016 Crop and Livestock Report. Available online at: <http://vcportal.ventura.org/AgComm/docs/crop-reports/Ag%20Crop%20Report%202016%2001-08-18%20lr.pdf>, accessed March 19, 2019.

oak, ponderosa pine, and Jeffrey pine, as well as understory grasses and herbs, most of which are non-native. Coast live oak woodland forms along coastal slopes and is often found associated with California walnut. In the vicinity of Sierra Peak in Orange County is the Tecate cypress forest, which thrives on low-fertility soils. The fire-adapted conifer species is listed by the California Native Plant Society and the forest is considered a special-status natural community by the California Natural Diversity Database (CNDDDB).¹⁸

The California Department of Fish and Wildlife (CDFW) recognizes valley oak woodland, Engelmann oak woodland, and California walnut woodland as sensitive woodland communities in the SCAG region. These communities as well as others have declined dramatically due to urban and agricultural development over the past 100 years. Wildfires have also negatively affected forests and woodlands, many of which can be attributed to humans. It is estimated that 4,150 human-caused fires have burned approximately 296,281 acres of Southern California between 2000 and 2017.¹⁹ Fire management and protection professionals now face longer fire seasons, bigger fires, and more acres burned on average each year, and more extreme fire behavior as climate change intensifies fire conditions.

Timberland

"Timberland" means privately or publicly owned land which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, and which is capable of growing an average annual volume of wood fiber of at least 15 cubic feet per acre. "Timber" means trees of any species maintained for eventual harvest for forest products purposes, whether planted or of natural growth, standing or down, on privately or publicly owned land, including Christmas trees, but does not mean nursery stock. Timber is permitted in the A-2 and A-3 agricultural zones in Imperial County, the Open Space zone in Los Angeles County with a Conditional Use Permit (CUP), and the Open Space Overlay in San Bernardino County with a CUP. Riverside County permits timberland production within the R-R (rural residential) zone and W-2 (controlled development areas) zone if a CUP has been obtained. Some counties designate areas of timberland as Timberland Preserves. These areas zoned as Timberland Production Zones (TPZs) are restricted in use to the production of timber for at least ten years. There is no TPZ land in the SCAG region.²⁰

¹⁸ SCAG. 2015. *2016 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) Draft Program Environmental Impact Report*. December.

¹⁹ National Interagency Fire Center. 2017. *Fire Info*. Available online at: https://www.nifc.gov/fireInfo/fireInfo_stats_human.html, accessed January 14, 2019.

²⁰ California Land Conservation Assistance Network. 2013. *Timberland Production Zones*. Available online at: <https://www.californialandcan.org/#regionMap>, accessed January 14, 2019.

3.2.2 REGULATORY FRAMEWORK

3.2.2.1 Federal

United States Forest Service (USFS) National Forest Management Act of 1976

The USFS manages approximately 2.3 million acres of national forests in the SCAG region, which is subject to the National Forest Management Act of 1976 (Public Law 94-588),²¹ a federal law that governs the administration of national forests. There are four national forests in the SCAG region, each of which is managed in accordance with a Forest Management Plan: the Angeles National Forest,²² San Bernardino National Forest,²³ Los Padres National Forest,²⁴ and Cleveland National Forest.²⁵

Farmland Protection Policy Act of 1981 (FPPA)

Congress passed the Agriculture and Food Act of 1981 (Public Law 97-98)²⁶ containing the FPPA subtitle I of Title XV, Section 1539-1549. Pursuant to the FPPA of 1981 Sections 1539–1549, the Secretary of Agriculture is directed to establish and carry out a program to “minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland” (7 U.S. Code [USC] 4201–4209 & 7 USC 658).²⁷ Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. The purpose of the FPPA to minimize the impacts federal programs have on the unnecessary and irreversible

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- 21 U.S. Senate Committee on Agriculture, Nutrition, & Forestry. *National Forest Management Act of 1976*. Available at: <https://www.agriculture.senate.gov/imo/media/doc/National%20Forest%20Management%20Act%20Of%201976.pdf>, accessed August 14, 2019.
- 22 U.S. Department of Agriculture, Forest Service. *Angeles National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/angeles/landmanagement/planning>, Accessed November 2, 2018.
- 23 U.S. Department of Agriculture, Forest Service. *San Bernardino National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/sbnf/landmanagement/planning>, Accessed November 2, 2018.
- 24 U.S. Department of Agriculture, Forest Service. *Los Padres National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/lpnf/landmanagement/planning>, accessed November 2, 2018.
- 25 U.S. Department of Agriculture, Forest Service. *Cleveland National Forest: Planning*. Available at: <http://www.fs.usda.gov/main/cleveland/landmanagement/planning>, accessed November 2, 2018.
- 26 United States Senate Committee on Agriculture, Nutrition, & Forestry. *Agriculture and Food Act of 1981*. Available at: <https://www.agriculture.senate.gov/imo/media/doc/97-98%20-%20Agriculture%20And%20Food%20Act%20Of%201981.pdf>, accessed August 14, 2018.
- 27 U.S. Department of Agriculture, Natural Resources Conservation Service. *Farmland Protection Policy Act (FPPA)*. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/home/?cid=nrcs144p2_063934, accessed November 2, 2018.

conversion of farmland to nonagricultural uses. It ensures that to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. For the purpose of FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

Federal Farm and Ranchland Protection Program

The Federal Farm and Ranchland Protection Program (FRPP) is a voluntary easement purchase program that helps farmers and ranchers keep their land in agriculture.²⁸ Pursuant to Sections 1539-1549 of the Farmland Protection Policy Act (FPPA) of 1981 Sections, the Secretary of Agriculture is directed to establish and carry out a program to “minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland.” (7 USC 4201-4209 & 7 USC 658). The program provides matching funds to state, tribal, or local governments and nongovernmental organizations with existing farmland protection programs to purchase conservation easements or other interests in land.

The FRPP is re-authorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill).²⁹ The NRCS manages the program. Technical Committee, awards funds to qualified entities to conduct their farmland protection programs. Although a minimum of 30 years is required for conservation easements, priority is given to applications with perpetual easements.

Federal Forest Legacy Program

The Forest Legacy Program (FLP) (16 USC § 2103c)³⁰ was part of the 1990 Federal Farm Bill.³¹ The purpose of the FLP is to protect environmentally important forestland under private ownership from

²⁸ U.S. Department of Agriculture. *Farm and Ranch Lands Protection Program*. Available at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/null/?cid=nrcs141p2_018768, accessed August 14, 2019.

²⁹ Farm Security and Rural Investment Act of 2002. Available at: <https://www.congress.gov/107/plaws/publ171/PLAW-107publ171.pdf>, accessed August 14, 2019.

³⁰ U.S. Department of Agriculture. 2017. *Forest Legacy Program Implementation Guidelines*. Available at: https://www.fs.fed.us/sites/default/files/fs_media/fs_document/15541-forest-service-legacy-program-508.pdf, accessed August 14, 2019.

conversion to non-forest uses, such as residential or commercial development. The FLP promotes the use of voluntary conservation easements on these properties. Landowners who wish to participate may sell or transfer particular rights, such as the right to develop the property or to allow public access, while retaining ownership of the property and the right to use it in any way consistent with the terms of the easement. The agency or organization holding the easement is responsible for managing the rights it acquires and for monitoring compliance by the landowner. Forest management activities, including timber harvesting, hunting, fishing, and hiking are encouraged, provided they are consistent with the program's purpose.

Agricultural Improvement Act of 2018

The Agricultural Improvement Act of 2018, or 2018 Farm Bill, which was signed on December 20, 2018 (and will remain in effect through 2023), builds upon and continues to implement many of the crucial programs that serve agricultural producers. The US Department of Agriculture is charged with implementing the bill, which reauthorized previous programs in the 2014 Farm Bill to serve producers now while they seek public input for future programs.³² The 2018 Farm Bill continued funding for major programs but did include some changes to Natural Resources Conservation Programs such as expanding support to producers who address significant natural resources concerns through adoption of conservation practices and activities.³³ All major conservation programs are continued, although some have been modified.

Federal Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance through contracts up to 10 years in length to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. These contracts provide financial assistance to help plan and implement conservation practices that address natural resource concerns and for opportunities to improve soil, water, plant, animal, air and related resources on agricultural land and non-industrial private forestland. In addition, another purpose of EQIP is to help producers meet federal, State, Tribal and local environmental regulations.

³¹ Food, Agriculture, Conservation, and Trade Act of 1990. Available at: <https://www.congress.gov/bill/101st-congress/senate-bill/2830>, accessed August 14, 2019.

³² U.S. Department of Agriculture, Farmers.gov, *2018 Farm Bill*. Available at: <https://www.farmers.gov/farmbill>, accessed June 12, 2019.

³³ U.S. Department of Agriculture. *What's New: Natural Resources Conservation Service (NRCS) and the 2018 Farm Bill*. Available at: https://www.farmers.gov/sites/default/files/documents/NRCS-FarmBill2018_WhatsNew-19.pdf, accessed June 12, 2019.

3.2.2.2 State

The California Land Conservation Act (Williamson Act)

The California Land Conservation Act (Williamson Act) of 1965 was enacted by the California State Legislature in 1965 to encourage the preservation of agricultural lands.³⁴ The California Department of Conservation administers the Williamson Act, for the conservation of farmland and other resource-oriented lands. The Williamson Act program permits property tax adjustments for landowners who contract with a city or county to keep their land in agricultural production or approved open space uses for at least 10 years. Lands covered by Williamson Act contracts are assessed on the basis of their agricultural value instead of their potential market value under nonagricultural uses. In return for the preferential tax rate, the landowner is required to contractually agree to not develop the land for a period of at least 10 years.³⁵

Williamson Act contracts are renewed annually for 10 years unless a party to the contract files for non-renewal.³⁶ The filing of a non-renewal application by a landowner ends the automatic annual extension of a contract and starts a nine-year phase-out of the contract. During the phase-out period, the land remains restricted to agricultural and open-space uses, but property taxes gradually return to levels associated with the market value of the land.³⁷ At the end of the nine-year non-renewal process, the contract expires, and the owner's uses of the land are restricted only by applicable local zoning.

The Williamson Act defines compatible use of contracted lands as any use determined by the county or city administering the preserve to be compatible with the agricultural, recreational, or open-space use of land within the preserve and subject to contract.³⁸ However, uses deemed compatible by a county or city government must be consistent with the principles of compatibility set forth in Government Code section 51231, 51238, or 51238.1.³⁹

³⁴ California Department of Conservation. 2019. *Williamson Act Program Overview*. Available online at: https://www.conservation.ca.gov/dlrp/wa/Pages/wa_overview.aspx, accessed August 14, 2019.

³⁵ California Department of Conservation. 2019. *Williamson Act Contracts*. Available at: <https://www.conservation.ca.gov/dlrp/wa/Pages/contracts.aspx>, accessed August 14, 2019.

³⁶ Ibid.

³⁷ California Department of Conservation. 2019. *Williamson Act Contract Removal*. Available at: https://www.conservation.ca.gov/dlrp/wa/Pages/removing_contracts.aspx, accessed August 14, 2019.

³⁸ Gov. Code, § 51201[e].

³⁹ California Legislative Information. *ARTICLE 1. General Provisions [51200-51207]*.

Within the SCAG region, Imperial, Los Angeles, Riverside, San Bernardino and Ventura counties have land under a Williamson Act contract, although Santa Catalina Island is the only contracted area in Los Angeles County. Orange County no longer has any land under a Williamson Act contract.⁴⁰

Open Space Subvention Act

The Open Space Subvention Act (OSSA) of 1972 (Gov. Code, § 16140 *et seq.*) was enacted on January 1, 1972 to provide for the partial replacement of local property tax revenue foregone as a result of participation in the Williamson Act and other enforceable open space restriction programs. Participating local governments receive annual payment on the basis of the quantity (number of acres), quality (soil type and agricultural productivity), and, for Farmland Security Zone contracts, location (proximity to a city) of land enrolled under eligible, enforceable open space restrictions.⁴¹

The Right to Farm Act of 1981

The Right to Farm Act of 1981 (Civ. Code, § 3482.5) is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a “manner consistent with proper and accepted customs.” The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began shall not be considered a nuisance as a result of new land use.⁴²

Farmland Security Zone Act

The Farmland Security Zone Act (California Government Code Sections 51296–51297.4) is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy.⁴³ Farmland Security Zone Act contracts are sometimes referred to as “Super Williamson Act Contracts.” Under the provisions of this act, a landowner already under a Williamson Act contract can apply for Farmland Security Zone status by entering into a contract with the county. Farmland Security Zone classification automatically renews each year for an additional 20 years. In return for a further 35 percent reduction in the taxable value of land and growing improvements (in addition to Williamson Act tax benefits), the owner of the property promises not to

⁴⁰ California Department of Conservation (DOC). 2017. *Williamson Act Contract Land by County*. Available online at: <http://ftp.consrv.ca.gov/pub/dlrp/WA/>, accessed January 15, 2019.

⁴¹ CA Department of Conservation. *Open Space Subvention Act*. Available at: <https://www.conservation.ca.gov/dlrp/wa/Pages/Open-Space-Subvention.aspx>, accessed August 15, 2019.

⁴² California Civil Code § 3482.5, “The Right to Farm Act.” Available at: http://www.farmlandinfo.org/sites/default/files/California_RTF_Act_1.pdf, accessed August 15, 2019.

⁴³ California Department of Conservation. Accessed 02 November 2018. *Farmland Security Zones*. Available at: <http://www.conservation.ca.gov/dlrp/wa/Pages/Farmland-Security-Zones.aspx>, accessed November 2, 2018.

develop the property into non-agricultural uses. Currently, Ventura County is the only county in the SCAG region with lands designated as Farmland Security Zones.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Cortese-Knox-Hertzberg Act) of 2000 (Gov. Code, § 56000 *et seq.*) established procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations. This act requires that development or use of land for other than open space shall be guided away from existing prime agricultural lands in open space use toward areas containing nonprime agricultural lands, unless that action would not promote that planned, orderly, efficient development of an area.⁴⁴

California Farmland Conservancy Program Act

The California Farmland Conservancy Program Act of 2010 (Pub. Resources Code, § 10200 *et seq.*), also known as Sen. Bill No. 1142 (Stats. 2010, ch. 323) (SB 1142), established the California Farmland Conservancy Program (CFCP), which provides grants for agricultural conservation easements.⁴⁵ An agricultural conservation easement aims to maintain agricultural land in active production by removing the development pressures from the land. Such an easement prohibits practices that would damage or interfere with the agricultural use of the land. Because the easement is a restriction on the deed of the property, the easement remains in effect even when the land changes ownership. Agricultural conservation easements are created specifically to support agriculture and prevent development on the subject parcels. While other benefits may accrue because the land is not developed (scenic and habitat values, for example), the primary use of the land is agricultural. Easements funded by the CFCP must be of a size and nature suitable for viable commercial agriculture.

The Forest Practice Act

The California Department of Forestry and Fire Protection (CALFIRE) enforces the laws that regulate logging on privately-owned lands in California. The Forest Practice Act was enacted in 1973 to ensure that logging is done in a manner that will preserve and protect fish, wildlife, forests and streams. CALFIRE reviews and approves plans for timber harvesting on private lands. In addition, through its

⁴⁴ California State Assembly. 2018. *Guide to the Cortese-Knox Hertzberg Local Government Reorganization Act*. Available online at: <https://calafco.org/sites/default/files/resources/CKH%20Guide%20Update%202018.pdf>, accessed August 15, 2019.

⁴⁵ California Legislative Information. 2010. *Senate Bill No. 1142*.

responsibility for fighting wildland fires, the CDF plays a role in planning development in forested areas.⁴⁶

California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP)

The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands in the State of California and conversion of these lands over time.⁴⁷ The goal of the FMMP is to provide consistent and impartial data to decision makers for use in planning for the future of California's agricultural land resources.⁴⁸ The CDC applies the Natural Resources Conservation Service (NRCS) soil classifications to identify agricultural lands, and these agricultural designations are used in planning for the present and future of California's agricultural land resources. The CDC has a minimum mapping unit of 10 acres, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications. The following are categories mapped by the CDC: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built Up Land, and Other Land.⁴⁹

California Farmland Conservancy Program (CFCP)

The CFCP seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agricultural conservation easements. The CFCP provides grant funding for projects which use and support agricultural conservation easements for protection of agricultural lands. The CFCP has funded more than 58,000 acres of easement projects in California, in more than a dozen counties between 1996 and 2016.^{50,51} CFCP has also funded a number of planning grants, including some

⁴⁶ California Department of Forestry and Fire Protection. 2019. Available at: <https://www.fire.ca.gov/>, accessed August 15, 2019.

⁴⁷ California Department of Conservation. *Farmland Mapping and Monitoring Program – Program Overview*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/Program_Overview.aspx, accessed November 2, 2018.

⁴⁸ Ibid.

⁴⁹ California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf, accessed November 2, 2018.

⁵⁰ California Department of Conservation. *Project Profiles – CFCP Projects*. Available at: <http://www.conservation.ca.gov/dlrp/Pages/Project%20Profiles.aspx>, accessed November 2, 2018.

⁵¹ California Department of Conservation. *California Farmland Conservancy Program Easements Completed 1996-2016*. Available at: http://www.conservation.ca.gov/dlrp/grant-programs/Documents/stories/CFCP_CompletedEasementsMap_1996_2016.pdf, accessed November 2, 2018.

with regional or statewide value. CFCP did not award any new grants for planning and policy projects in the SCAG region between 1996 and 2016.⁵²

California Forest Legacy

Similar to the Federal Forest Legacy Program, the California Forest Legacy Act of 2007 (Pub. Resources Code, § 12220(G)) is a program of the California Department of Forestry and Fire Protection (CAL FIRE) to promote conservation easements in environmentally sensitive forest areas. Money to fund the Program is obtained from gifts, donations, federal grants and loans, other appropriate funding sources, and from the sale of bonds pursuant to Proposition 12, the Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act (The Villaraigosa-Kelley Act) of 2000 (Pub. Resources Code, div. 5, ch. 1.692). This act defines “forest land” as “land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.”⁵³

3.2.2.3 Local

General Plans

The SCAG region spans six counties, each of which has a general plan containing policies related to protection of agriculture and typically forestry resources:

- **Imperial County:** Agricultural Element⁵⁴ (no policies for forestry resources)
- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element⁵⁵
- **Orange County:** Chapter VI. Resources Element⁵⁶
- **Riverside County:** Chapter 5: Multipurpose Open Space Element⁵⁷

⁵² California Department of Conservation. *Project Profiles – CFCP Projects*. Available at: <http://www.conservation.ca.gov/dlrp/Pages/Project%20Profiles.aspx>, accessed November 2, 2018.

⁵³ California Legislative Information. *ARTICLE 3. Definition [12220-12220.]*.

⁵⁴ Imperial County Planning and Development Services. [Adopted November 9, 1993] Revised October 6, 2015. *Imperial County General Plan: Agricultural Element*. Available at: <http://www.icpds.com/CMS/Media/Agricultural-Element-2015.pdf>, accessed August 15, 2019.

⁵⁵ Los Angeles County Department of Regional Planning. Adopted October 6, 2015. *Los Angeles County General Plan 2035*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 15, 2019.

⁵⁶ Orange County Public Works Development Services. *General Plan: Chapter VI. Resources Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed August 15, 2019.

- **San Bernardino County:** Chapter V. Conservation Element⁵⁸
- **Ventura County:** Resources Appendix⁵⁹

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

Zoning

City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction, including zones for agricultural use and timberland production. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan. The purpose of agricultural zoning is to protect farmland and farming activities from incompatible non-farm uses.

Land Conservation Trust

A land trust is a nonprofit organization that, as all or part of its mission, actively works to conserve land by undertaking or assisting in land or conservation easement acquisition, or by its stewardship of such land or easements. A land conservation trust is another type of organization devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. There are approximately 80 established trusts in California, 14 of which are located at least partially within the SCAG region.⁶⁰ Local and regional land trusts, organized as charitable organizations under federal tax laws, are directly involved in conserving land for its natural, recreational, scenic, historical, and productive values. Local governments and special districts, either on their own or working with land trusts and conservancies, can acquire fee title to agricultural and open space lands or purchase development rights to preserve rural and agricultural areas, watersheds, or critical habitat, or to create public parks and recreational areas.

⁵⁷ Riverside County Planning Department. December 8, 2015. *Riverside General Plan – Multipurpose Open Space Element*. Available at: https://planning.rctlma.org/Portals/14/genplan/general_plan_2016/elements/Ch05_MOSE_120815.pdf?ver=2016-04-01-100801-367, accessed August 15, 2019.

⁵⁸ County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed August 15, 2019.

⁵⁹ County of Ventura Resource Management Agency, Planning Division. Amended 28 June 2011. *Ventura County General Plan: resources appendix*. Available at: <https://docs.vcrma.org/images/pdf/planning/plans/General-Plan-Resources-Appendix.pdf>, accessed August 15, 2019.

⁶⁰ California Council of Land Trusts. 2019. *Map of CA Land Trusts*. Available at: <https://www.calandtrusts.org/map-ca-land-trusts/>, accessed January 23, 2019.

Regional Conservation Plans

Local agencies throughout the region have worked together to form Regional Conservation Plans (RCPs). These plans recognize that important habitats do not routinely line up with jurisdictional borders, so designation of conservation lands can span multiple jurisdictions. Additionally, RCPs efficiently address mitigation mandates from the California Environmental Quality Act (CEQA) by anticipating transportation projects and “banking” potentially threatened endangered-species habitats. The following are adopted major conservation plans made up of multiple jurisdictions within SCAG’s boundaries; The Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP), the Western Riverside MSHCP, the Orange County Transportation Authority Measure M2 Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), and the Orange County Central Coastal NCCP/HCP.

The following RCPs are in the planning phase, although conservation and restoration efforts for most of them are well underway; City of Rancho Palos Verdes NCCP/HCP, Imperial Irrigation District NCCP/HCP, Town of Apple Valley MSHCP/NCCP, and the San Bernardino County Regional Conservation Investment Strategy (RCIS).

Local Agency Formation Commissions

The Local Agency Formation Commission (LAFCO) is the agency that has the responsibility to create orderly local government boundaries, with the goal of encouraging “planned, well-ordered, efficient urban development patterns,” the preservation of open-space lands, and the discouragement of urban sprawl. While LAFCO has no direct land use authority, its actions determine which local government will be responsible for planning new areas. LAFCO addresses a wide range of boundary actions, including creation of spheres of influence for cities, adjustments to boundaries of special districts, annexations, incorporations, detachments of areas from cities, and dissolution of cities.

Mitigation Bank or Conservation Bank

A conservation or mitigation bank is privately or publicly owned land managed for its natural resource values. In exchange for permanently protecting, managing, and monitoring the land, the bank sponsor is allowed to sell or transfer habitat credits to permittees who need to satisfy legal requirements and compensate for the environmental impacts of developmental projects.

A privately-owned conservation or mitigation bank is a free-market enterprise that:

- Offers landowners economic incentives to protect natural resources; Saves permittees time and money by providing them with the certainty of pre-approved compensation lands;

- Consolidates small, fragmented wetland mitigation projects into large contiguous sites that have much higher wildlife habitat values;
- Provides for long-term protection and management of habitat.

A publicly owned conservation or mitigation bank:

- Offers the sponsoring public agency advance mitigation for large projects or multiple years of operations and maintenance.⁶¹

3.2.3 ENVIRONMENTAL IMPACTS

3.2.3.1 Thresholds of Significance

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.⁶² In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of Connect SoCal could result in significant adverse impacts to agricultural and forestry resources, if the Plan would result in any of the following:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract;

⁶¹ See e.g., Bunn, David; Lubell, Mark; Johnson, Christine. 2013. *Reforms could boost conservation banking by landowners*. Available at: <http://calag.ucanr.edu/Archive/?article=ca.v067n02p86>, accessed August 15, 2019.

⁶² California Department of Conservation. 2019. *Land Evaluation & Site Assessment (LESA) Model*. Available at: https://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx, accessed August 15, 2019.

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)),⁶³ timberland (as defined by Public Resources Code section 4526),⁶⁴ or timberland zoned Timberland Production (as defined by Government Code section 51104(g));⁶⁵
- Result in the loss of forest land or conversion of forest land to non-forest use;
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

3.2.3.2 Methodology

The methodology for determining the significance of agricultural, timberland, and forest impacts compares the existing conditions to conditions in 2045 with the Connect SoCal Plan, as required by *State CEQA Guidelines* Section 15126.2(a). The known agricultural, timberland, and forest resources located within the region were evaluated using the criteria set forth by the California Department of Conservation and the *State CEQA Guidelines*. The analysis was limited to state-recognized agricultural, timberland, and forest resources. In general, the potential to impact agricultural, timber, and forest resources varies by the development area type (or location of transportation improvement).

Impacts are assessed in terms of changes to both land use and transportation infrastructure using data from the six counties within the SCAG region and SCAG forecasts related to projected population, housing, and employment growth. The methodology for determining the significance of these impacts applies the significance criteria above to the future (2045) land use pattern and transportation network. The development of new transportation facilities may affect agricultural, timber and forest resources, through both direct and indirect effects, including traversing agricultural, timberland, and forest lands. SCAG used a 500-foot buffer for transportation projects and land use development to represent where impacts could occur with respect to mapped resources such as agricultural lands.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific

⁶³ California Legislative Information. *Article 3. Definitions [12220-12220].*

⁶⁴ California Legislative Information. *Article 2. Definitions [4521-4529.5].*

⁶⁵ California Legislative Information. *Article 1. General Provisions [51100-51104].*

environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.2.3.3 Impacts and Mitigation Measures

Impact AG-1 **Potential for the Plan to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.**

Significant and Unavoidable Impacts - Mitigation Required.

Implementation of transportation projects as well as growth anticipated under the Plan would have the potential to convert the following to non-agricultural use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland and Farmland of Local Importance. Farmland may be located within 500-feet of the transportation projects and anticipated land use development in the Plan, which would result in the conversion of lands and constitute a significant impact (**Table 3.2-4, Estimated Maximum Direct Potential Loss of Important Agricultural Land**). Based on this scenario, approximately 15,903 acres, or 0.06 percent, of combined existing Important Farmland and Grazing Land would be directly converted to non-agricultural use as a result of the transportation projects and strategies included in the Plan.

Implementation of the transportation projects and strategies considered in the Connect SoCal Plan could result in long-term impacts to farmland by adding transportation projects to parts of the region in use as agricultural lands or through development on agricultural lands, which are interspersed throughout urban areas and are also located in less developed portions of the counties. Where there would be new transportation facilities constructed outside of the region's urbanized areas, undisturbed/vacant land could be utilized for transportation purposes. Transportation projects that are most likely to result in significant impacts to agricultural lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and regional express lane network improvements in areas that currently serve as agricultural could also result in significant impacts, requiring mitigation measures.

**Table 3.2-4
Estimated Maximum Direct Potential Loss of Important Agricultural Land**

County	Important Farmland (Acres)				Subtotal of Important Farmland (Acres)	Grazing Land (Acres)	Total Important Agricultural Land (Acres)	Percent Potentially Lost by County
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance				
Imperial	262	202	0	102	566	0	566	0.02%
Los Angeles	78	69	4	110	260	3,390	3,650	0.14%
Orange	74	20	7	0	101	0	101	0.02%
Riverside	638	692	202	3,520	5,052	814	5,866	0.13%
San Bernardino	9	4	54	0	67	4,874	4,941	0.04%
Ventura	156	202	18	77	454	326	779	0.07%
Totals	1,217	1,189	285	3,809	6,499	9,404	15,903	0.06%

Source: California Department of Conservation, Division of Land Resource Protection, 2016

The Plan includes policies and strategies to help protect natural and farmlands and reduce overall land consumption. The Plan includes policies such as encouraging regional conservation planning, improving natural corridor connectivity, and expanding data sharing among agencies. The Plan also promotes a more compact growth pattern, which would help preserve agricultural lands. While the Plan includes the land use strategies that would focus new growth in the region's urbanized areas (primarily HQTAs), development anticipated to accommodate population growth could result in the consumption of agricultural lands, which would constitute a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM AG-1: SCAG shall host a Natural & Farm Lands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the development of a Natural Lands Conservation Strategy for the Connect SoCal Plan.

SMM AG-2: SCAG shall expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in

mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG's subregions to support their county-level efforts at data building. SCAG shall encourage CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures.

SMM AG-3: SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning funds, such as cap and trade auction proceeds that could help prepare for local action on acquisition and restoration, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.

SMM AG-4: SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farm Lands Appendix strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors.

Project Level Mitigation Measures

PMM AG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential adverse effects on agricultural resources, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Require project sponsors to mitigate for loss of farmland by providing permanent protection of in-kind farmland in the form of easements, fees, or elimination of development rights/potential.
- b) Project relocation or corridor realignment to avoid Prime Farmland, Unique Farmland, or Farmland of Local or Statewide Importance.
- c) Maintain and expand agricultural land protections such as urban growth boundaries.

- d) Provide for mitigation fees to support a mitigation bank⁶⁶ that invests in farmer education, agricultural infrastructure, water supply, marketing, etc. that enhance the commercial viability of retained agricultural lands.
- e) Minimize severance and fragmentation of agricultural land by constructing underpasses and overpasses at reasonable intervals to provide property access.
- f) Use berms, buffer zones, setbacks, and fencing to reduce conflicts between new development and farming uses and protect the functions of farmland.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to conversion of farmlands could be significant and unavoidable even with implementation of mitigation.

Impact AG-2 Potential for the Plan to conflict with existing zoning for agricultural use, or a Williamson Act contract.

Significant and Unavoidable- Mitigation Required.

Implementation of the transportation projects and growth anticipated under the Plan would have the potential to conflict with land managed pursuant to Williamson Act contracts constituting a significant impact. Prime Agricultural Land in Riverside County, Mixed Enrollment Agricultural Land in Ventura County, and Non-Renewal land in Imperial and Riverside counties under a Williamson Act contract are located within the 500-foot construction radius of the transportation projects in the Plan. Thus, there is a potential for the Plan to result in significant impacts to lands managed under Williamson Act contracts.

Implementation of the transportation projects included in the Plan could also directly affect existing zoning for agricultural use. Land zoned for agricultural use within Imperial, Orange, Riverside, San

⁶⁶ The California Department of Fish and Wildlife provides a definition for conservation or mitigation banks on their website (please see <https://www.wildlife.ca.gov/Conservation/Planning/Banking>).

Bernardino, and Ventura Counties is located within 500 feet of projects in the Plan. While the land use strategies in the Plan are intended to encourage growth in urbanized areas, some growth would occur in areas that would potentially conflict with existing zoning for agricultural use or Williamson Act contracts which constitutes a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-4**.

Project Level Mitigation Measures

See **PMM AG-1**.

PMM AG-2: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects on Williamson Act contracts to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

- a) Project relocation or corridor realignment to avoid lands in Williamson Act contracts.
- b) Establish conservation easements consistent with the recommendations of the Department of Conservation, or 20-year Farmland Security Zone contracts (Government Code Section 51296 et seq.), 10-year Williamson Act contracts (Government Code Section 51200 et seq.), or use of other conservation tools available from the California Department of Conservation Division of Land Resource Protection.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures,

this PEIR finds impacts related to conflicts with existing agricultural zoning and Williamson Act contract lands could be significant and unavoidable even with implementation of mitigation..

Impact AG-3 Potential for the Plan to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

Significant and Unavoidable – Mitigation Required.

Implementation of the transportation projects and anticipated growth under the Plan has the potential to conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Within the SCAG region, forest industries are permitted in open space zones in Imperial County and Ventura County, while national forest lands are protected from future development. Two of the transportation projects included in the Plan would cross through the SCAG region’s national forests. Although there are very few existing trees along the I-15 freeway within the San Bernardino National Forest (predominantly characterized by shrubland adjacent to the freeway, with trees in riparian areas), roadway widening associated with HOV lanes has the potential to affect existing lands zoned as forest land. Similarly, the preferred alignment for HSR is currently expected to be along the SR 14 and would continue underground through Angeles National Forest, preserving the wilderness and the forest at ground surface along the route.⁶⁷ However, it is possible the alignments could change or that in areas where projects intersect with forest lands impacts could occur. These projects would likely require a Forest Management Plan amendment regarding the preservation of scenic integrity objectives which would reduce potential impacts, however, impacts may not be reduced to below a level of significance. Therefore, impacts related to forest land are considered significant requiring consideration of mitigation measures.

The harvesting of timberland is only permitted in two agricultural zones in Imperial County, in the open space zone in Los Angeles County only if a Conditional Use Permit (CUP) has been obtained, in the rural residential zone and controlled development areas in Riverside County only if a CUP has been obtained, in the open space zone in San Bernardino County, and only Christmas tree farms are permitted in the Timberland Preserve zone in Ventura County. Although implementation of the transportation projects considered in the Plan could result in long-term impacts to land zoned for timberland use, timberland harvesting does not currently occur in the SCAG region. Therefore, the Plan would result in no impact to

⁶⁷ Vartabedian, Ralph, Sept 19, 2018. <https://www.latimes.com/local/california/la-me-high-speed-rail-palmdale-burbank-20180919-story.html>

timberland. Furthermore, there would also be no impact to Timberland Production Zones, as none have been established in the six-county SCAG region. As described above, impacts to forestry would be significant and unavoidable. Mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-2**.

Project Level Mitigation Measures

PMM AG-3: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland to maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

- a) Minimize construction related impacts to agricultural and forestry resources by locating materials and stationary equipment in such a way as to prevent conflict with agriculture and forestry resources.

Impact AG-4 **Potential for the Plan to result in the loss of forest land or conversion of forest land to non-forest use.**

Significant and Unavoidable - Mitigation Required.

Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the loss of forest land or conversion of forest land to non-forest use. Forestry resources within the SCAG region are primarily concentrated in the four national forests in the SCAG region, which are protected from future development. However, small patches of forest land and sensitive woodland communities near the wildland-urban interface are not protected. Despite land use strategies included in the Plan aim to concentrate future development in the region's urbanized areas, existing suburban town centers, and walkable, mixed-use communities (primarily the HQTAs), some of the new transportation facilities would inevitably be constructed outside of such areas. Additionally, development associated with new urban uses could also be located on forest land, resulting in the conversion of small patches of forest land to non-forest use.

Transportation projects that are most likely to result in minor impacts to forest lands include highway expansion, highway widening projects, and potential connectors. Other transportation projects such as

roadway improvements, toll road improvements and connections, grade separated facilities for busways, goods movement roadway facilities, high speed rail and commuter rail projects, and high-occupancy vehicle (HOV) / high-occupancy toll (HOT) connectors in areas that are currently forest land could also result in minor impacts. As mentioned in AG-3 above, two projects in the Plan have the potential to result in the conversion of forestry resources. As such, impacts related to forestry would be significant and mitigation measures are required. As described above, impacts to forestry would be significant and unavoidable. Mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See SMM AG-1 through SMM AG-2.

Project Level Mitigation Measures

See PMM AG-3.

Impact AG-5 **Potential for the Plan to involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.**

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Although the Plan would include the land use strategies that focus new anticipated development in the region's urbanized areas, some new development is anticipated to occur in agricultural areas on forest land outside the national forests (where forest land is protected from future development), and/or near the wildland-urban interface. As described under Impact AG-1, the Plan would potentially directly impact up to 0.06 percent of combined existing Important Farmland and Grazing Land in the SCAG region based on a 500 foot buffer, which could indirectly result in the conversion of additional farmland or forest land as a result of increased development due to transit and/or passenger rail projects included in the Plan. Furthermore, implementation of the Plan would result in the conversion of approximately 6,499 acres of Important Farmland (15,903 acres of total agricultural lands). Lands that remain agricultural but located adjacent to urban uses, may feel pressure to develop, as nearby land values increase or as nuisances from urban development spread to agricultural lands. In addition, urban uses,

especially newly urbanized areas, can lead to pressure on adjacent farms to change their farming practices (to reduce noise, decrease spraying of fertilizers and pesticides, etc.).

Forestry resources are concentrated in the four national forests in the SCAG region, which are protected from future development. However, as discussed in Connect SoCal, climate change associated with greenhouse gas emissions would be expected to contribute to the loss of agricultural and forest land caused by increased drought conditions and wildfires.⁶⁸ As climate change studies suggest that Southern California will continue to experience more extreme weather scenarios, including longer and hotter heat waves that would increase the threat of wildfire in parts of the SCAG region already prone to wildfires, forested areas in the region are expected to experience greater threats from wildfires as conditions grow drier and hotter.⁶⁹ Agricultural areas in Southern California are “moderately” vulnerable to climate change (i.e., loss of winter chill hours, increased invasive pests, changes to plant and pest interactions, and increased plant and animal diseases in agriculture have the potential to result in the loss of agricultural land).⁷⁰ As described in **Section 3.8, Greenhouse Gases Emissions**, the proposed project could result in a significant impact with respect to greenhouse gas emissions (GHGs) and GHGs are considered a primary cause of global climate change. However, the relationship between development in any given region or country and measurable changes in forest land is not possible to determine and is therefore considered too speculative to be analyzed any further in this environmental document.

As previously mentioned, implementation of the Plan would convert a total of 15,903 acres from agricultural land to urban land use. A range of local conservation plans, habitat conservation agencies and state/federal park designated areas provide protection for a significant amount of natural and farm land in the SCAG region. However, a substantial amount of land on the urban and suburban fringe is vulnerable to development if not within the boundaries of protected lands and face additional development pressure as adjacent lands are converted. Therefore, transportation projects and development projects anticipated to occur under Connect SoCal could have the potential to cause other changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, constituting a significant impact requiring the consideration of mitigation measures.

⁶⁸ SCAG. 2019. *Natural & Farm Lands Conservation Technical Report*.

⁶⁹ Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5° Celsius Climate Change Summary Report for Policymakers*. Available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_version_stand_alone_LR.pdf, accessed May 14, 2019.

⁷⁰ California Department of Food and Agriculture. 2018. *Agriculture and Climate Change Adaptation*. Available at: <https://www.climatechange.ca.gov/adaptation/agriculture.html>, accessed May 14, 2019.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AG-1** through **SMM AG-2** and **SMM-GHG-1** through **SMM-GHG-5**.

Project Level Mitigation Measures

See **PMM AG-2** through **PMM AG-3** and **PMM GHG-2**.

PMM AG-4: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

- a) Design proposed projects to minimize, to the greatest extent feasible, the loss of the highest valued agricultural land.
- b) Redesign project features to minimize fragmenting or isolating Farmland. Where a project involves acquiring land or easements, ensure that the remaining non-project area is of a size sufficient to allow economically viable farming operations. The project proponents shall be responsible for acquiring easements, making lot line adjustments, and merging affected land parcels into units suitable for continued commercial agricultural management.
- c) Reconnect utilities or infrastructure that serve agricultural uses if these are disturbed by project construction. If a project temporarily or permanently cuts off roadway access or removes utility lines, irrigation features, or other infrastructure, the project proponents shall be responsible for restoring access as necessary to ensure that economically viable farming operations are not interrupted.

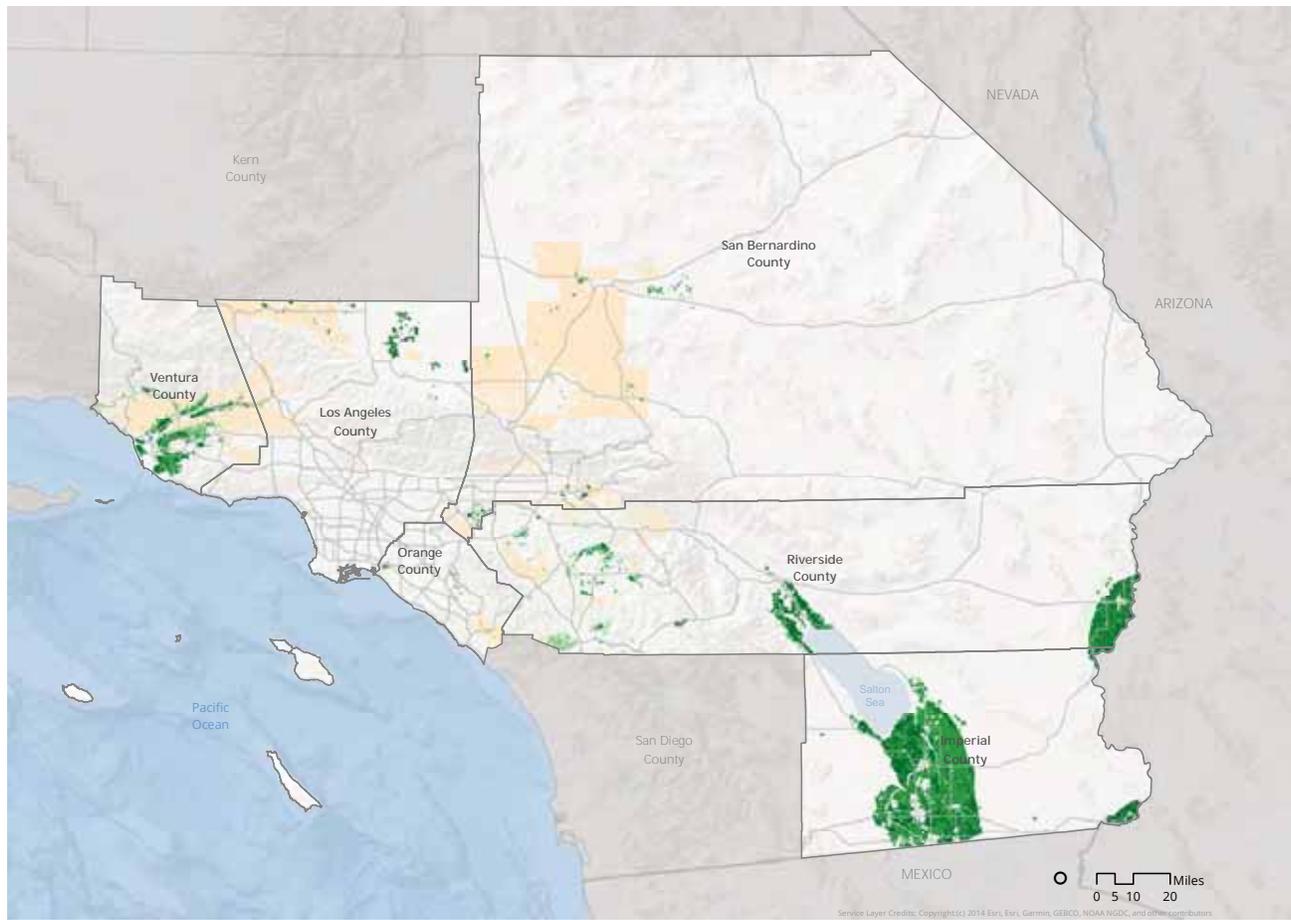
PMM AG-5: Project level mitigation measures can and should be considered by Lead Agencies as applicable and feasible. Measures to reduce substantial adverse effects, through the conversion of Farmland, to the maximum extent practicable, as determined appropriate by each Lead Agency, may include the following, or other comparable measures:

- a) Manage project operations to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land.

Where a project has the potential to introduce sensitive species or habitats or have other spill-over effects on nearby agricultural lands, the project proponents shall be responsible for acquiring easements on nearby agricultural land and/or financially compensating for indirect effects on nearby agricultural land. Easements (e.g., flowage easements) shall be required for temporary or intermittent interruption in farming activities (e.g., because of seasonal flooding or groundwater seepage). Acquisition or compensation would be required for permanent or significant loss of economically viable operations.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to conversion of farmland or forest land could be significant and unavoidable even with implementation of mitigation.



Prime Farmland
 Farmland of Statewide Importance
 Unique Farmland
 Farmland of Local Importance
 Grazing Land

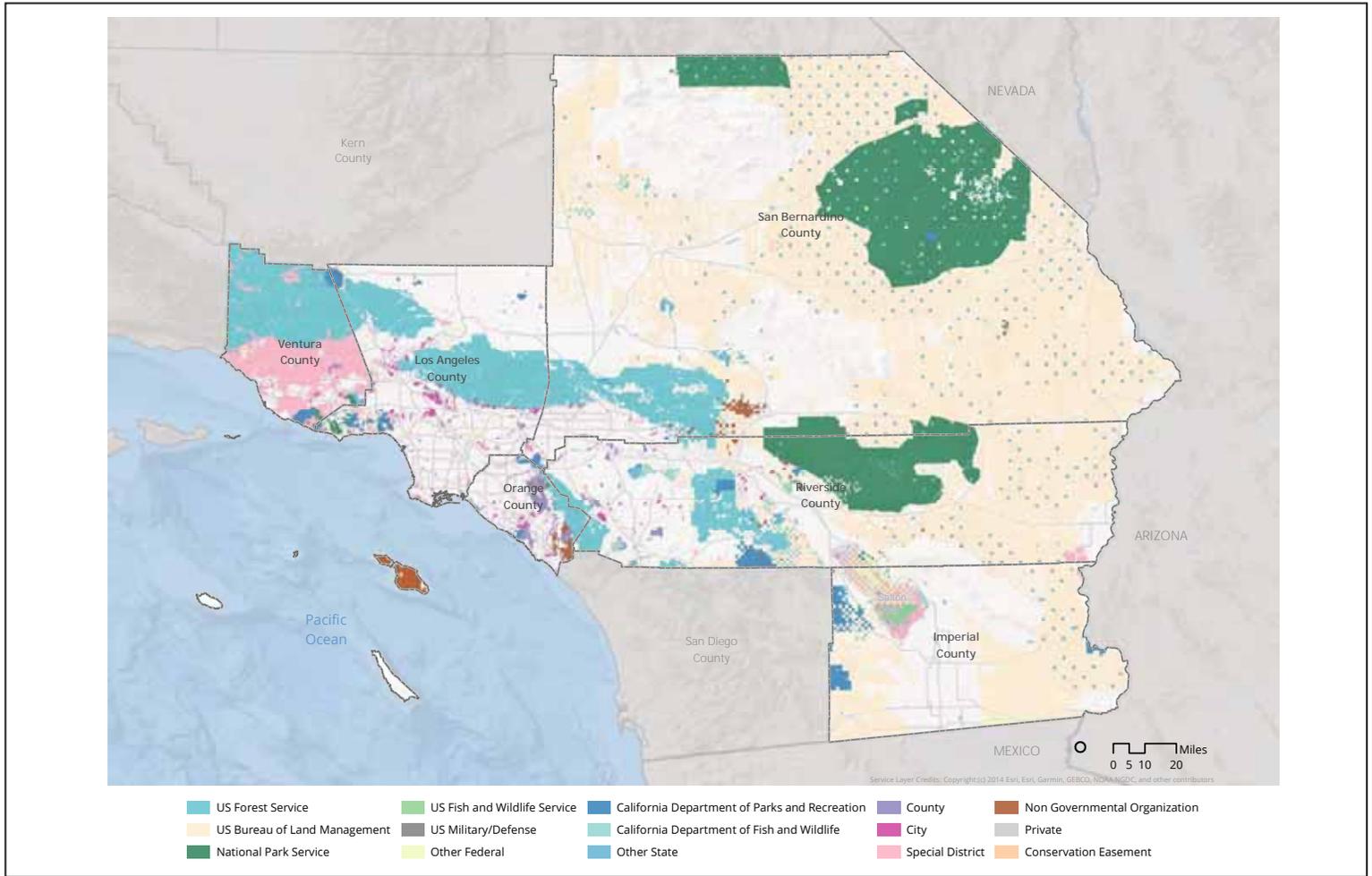
SOURCE: SCAG, CA Department of Conservation, 2019

FIGURE 3.2-1

Farmland in the SCAG Region



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SOURCE: SCAG, California Protected Areas Database, 2017; California Conservation Easement Database, 2016

FIGURE 3.2-2

Forest Lands in the SCAG Region

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3.3 AIR QUALITY

This section of the Program Environmental Impact Report (PEIR) describes air quality within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect air quality, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.3.1 DEFINITIONS

Air Dispersion: Air dispersion is defined as how air pollutants travel through ambient air. Toxic Air Contaminants/Mobile Source Air Toxics (TACs/MSATs) impact those located closest to the emission sources more than those located further away. A California law passed in 2003 (Public Resources Code Section 21151.8) prohibits the siting of a school within 500 feet of a freeway unless “the school district determines, through analysis based on appropriate air dispersion modeling, that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils.” The U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines.

Concentrations: The amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The following discussion identifies the pollutants included in this analysis.

Criteria Pollutants: Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter (PM_{2.5}), particulate matter ten microns or less in diameter (PM₁₀), and lead (Pb). These pollutants are discussed below.¹

- Carbon Monoxide (CO) is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. It is emitted primarily from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient concentrations generally

¹ U.S. Environmental Protection Agency. *NAAQS*. Available online at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, accessed November 6, 2019.

follow the spatial and temporal distributions of vehicular traffic. Concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. Inversions are an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air. The highest concentrations occur during the colder months of the year when inversion conditions are more frequent. CO is a health concern because it competes with oxygen, often replacing it in the blood and reducing the blood's ability to transport oxygen to vital organs. Excess CO exposure can lead to dizziness, fatigue, and impair central nervous system functions.²

- Ozone (O₃) is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG) and nitrogen oxides (NO_x) react in the presence of ultraviolet sunlight. O₃ is not a primary pollutant; rather, it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_x, the components of O₃, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.³
- Nitrogen Dioxide (NO₂) like O₃, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to O₃ formation. NO₂ also contributes to the formation of PM₁₀. High concentrations of NO₂ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a

² U.S. Environmental Protection Agency. *Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution*. Available online at: [https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What is CO](https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What%20is%20CO), accessed November 6, 2019.

³ U.S. Environmental Protection Agency. *Ground-level Ozone Basics*. Available online at: <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#wwh>, accessed November 6, 2019.

relationship between NO₂ and chronic pulmonary fibrosis. Some increase of bronchitis in children (2-3 years old) has been observed at concentrations below 0.3 parts per million (ppm).⁴

- Sulfur Dioxide (SO₂) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO₂ are coal and oil used in power plants and industries. Generally, the highest levels of SO₂ are found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ can also yellow plant leaves and erode iron and steel.⁵
- Particulate Matter (PM) consists of small liquid and solid particles floating in the air, including smoke, soot, dust, salts, acids, and metals and can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Fine particulate matter, or PM_{2.5}, is roughly 1/28 the diameter of a human hair and results from fuel combustion (e.g. motor vehicles, power generation, industrial facilities), residential fireplaces, and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x, and VOC. Inhalable particulate matter, or PM₁₀, is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, they can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can

⁴ U.S. Environmental Protection Agency. *Basic Information about NO₂*. Available online at: <https://www.epa.gov/no2-pollution/basic-information-about-no2>, accessed November 6, 2019.

⁵ U.S. Environmental Protection Agency. *Sulfur Dioxide Basics*. Available online at: <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>, accessed November 6, 2019.

penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.⁶

- Lead (Pb) in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.⁷

- Toxic Air Contaminants (TAC) are airborne pollutants that may increase a person's risk of developing cancer or other serious health effects. TACs include more than 700 chemical compounds that are identified by State and federal agencies based on a review of available scientific evidence. In California, TACs are identified through a two-step process established in 1983 that includes risk identification and risk management.⁸

Diesel Particulate Matter (DPM): According to the California Air Resources Board (CARB), most toxic air emissions are from motor vehicles and the particulate matter from the exhaust of diesel-fueled engines.⁹ In 1998, the OEHHA completed a comprehensive health assessment of diesel exhaust. This assessment formed the basis for a decision by the CARB to formally identify particles in diesel exhaust as a TAC that may pose a threat to human health.¹⁰

⁶ U.S. Environmental Protection Agency. *Particulate Matter (PM) Basics*. Available online at: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>, accessed November 6, 2019.

⁷ U.S. Environmental Protection Agency. *Basic Information about Lead Air Pollution*. Available online at: <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution>, accessed November 6, 2019.

⁸ OEHHA. 2019. *Toxic Air Contaminants*. Available online at: <https://oehha.ca.gov/air/toxic-air-contaminants>, accessed November 6, 2019.

⁹ California Air Resources Board. Accessed 8 September 2015. *Reducing Toxic Air Pollutants in California's Communities*. Available at: <http://www.arb.ca.gov/toxics/brochure.pdf>

¹⁰ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is commonly found throughout the environment and is estimated by EPA's National Scale Assessment to contribute to the human health risk in New England. Diesel exhaust is composed of two phases, either gas or particle, and both phases contribute to the risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine, and ultra-fine particles. The composition of these fine and ultrafine particles may be composed of elemental carbon with absorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines: the on-road diesel engines of trucks, buses, and cars and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment.¹¹ People living and working in urban and industrial areas are more likely to be exposed to this pollutant. Those spending time on or near roads and freeways, truck loading and unloading operations, operating diesel-powered machinery, or working near diesel equipment face exposure to higher levels of diesel exhaust and face higher health risks.¹²

The most common exposure pathway is breathing the air that contains the DPM. The fine and ultrafine particles are respirable, which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. In the National Scale Assessment, there are several steps used to characterize public health risks. For diesel particulate matter, not all of the steps could be completed but a qualitative assessment was provided that provided modeling estimates of population exposures. The estimated population exposure concentrations for diesel particulate matter were the highest exposure concentrations in all of the New England states. EPA has medium confidence in the overall NATA estimate for diesel particulate exposure based on the emissions and exposure modeling. Exposure to DPM comes from both on road and off-road engine exhaust that is either directly emitted from the engines or aged through lingering in the atmosphere.¹³

Diesel exhaust causes health effects from both short-term or acute exposures and also long-term chronic exposures, such as repeated occupational exposures. The type and severity of health effects depends upon several factors including the amount of chemical you are exposed to and the length of time you are

¹¹ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹² Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

¹³ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

exposed. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel particulate matter but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.¹⁴

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat, and lungs and some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung, and there are also diesel exhaust immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.¹⁵ The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. For the average Californian, 70 percent of cancer risk from breathing toxic air pollutants stem from diesel exhaust particles.¹⁶

EPA's National Scale Assessment uses several types of health hazard information to provide a quantitative "threshold of concern" or a health benchmark concentration at which it is expected that no adverse health effects occur at exposures to that level. Health effects information on carcinogenic, short- and long term non-carcinogenic end points are used to establish selective protective health levels to compare to the modeled exposures levels. The exposure response data in human studies are considered too uncertain to develop a carcinogenic unit risk for EPA's use. There is a Reference Concentration (RFC) that is used as a health benchmark protective of chronic noncarcinogenic health effects, but it is for diesel exhaust and not specifically set for DPM, which is what was modeled in NATA. The RFC for diesel

¹⁴ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹⁵ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

¹⁶ Office of Environmental Health Hazard Assessment. Accessed 8 September 2015. *Health Effects of Diesel Exhaust*. Available at: http://oehha.ca.gov/public_info/facts/dieselfacts.html

exhaust, which includes DPM is $5 \mu\text{g}/\text{m}^3$. This value is similar to the National Ambient Air Quality Standard established for fine particulate matter, which is $15 \mu\text{g}/\text{m}^3$.¹⁷

Emissions: The quantity of pollutants released into the air, measured in pounds per day (ppd) or tons per day (tpd).

GHG Greenhouse Gases – Components of the atmosphere that contribute to the greenhouse effect. The principal greenhouse gases that enter the atmosphere because of human activities are carbon dioxide, methane, nitrous oxide, and fluorinated gases.

Visibility: With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the California Ambient Air Quality Standards (CAAQS) for visibility reducing particles. (A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.)

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard.

3.3.2 ENVIRONMENTAL SETTING

The SCAG region encompasses a population exceeding 19 million persons in an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Air quality in the four air basins in the SCAG region—South Coast Air Basin (SCAB), Mojave Desert Air Basin (MDAB), Salton Sea Air Basin (SSAB), and South Central Coast Air Basin (SCCAB) (Ventura

¹⁷ U.S. Environmental Protection Agency. 24 April 2014. *Diesel Particulate Matter*. April 24, 2014. Available at: <http://www.epa.gov/region1/eco/airtox/diesel.html>

County portion)—is a function of the topography, climate, population, and land use. While improved from the 1970s, Southern California consistently ranks as some of the worst air quality in the nation. The American Lung Association’s *State of the Air Report 2018*, ranks the Los Angeles-Long Beach metropolitan area as seventh worst in the nation for people at risk for 24-hour PM_{2.5}, fourth worst for annual PM_{2.5}, and worst for most ozone-polluted cities.¹⁸

Topography, Climate, and Meteorology

The SCAG region has a greatly varied topography from lakes to mountains, valleys, hills, basins, and urban areas. The topography and meteorological conditions define the climate of the region because air quality is a function of the rate and location of pollutant emissions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, influence the movement and dispersal of pollutants and thereby provide the link between air pollutant emissions and air quality. Southern California has strong temperature inversions in the lower atmosphere that can trap pollutants near the surface. Meteorology affects air quality trends that may mask emission reduction benefits. Meteorology also affects different pollutants differently. Warm and sunny weather, which is typical of Southern California, leads to higher ozone days because sunlight aids the chemical reactions that form ozone. On the other hand, windy weather will spread primary particulate matter from direct emissions leading to high PM concentrations in the air. Secondary PM, including particulate nitrates and sulfates, is more prevalent in the air during cold, calm, and humid weather conditions. Rain and wind reduce PM concentration in the air.¹⁹ The local topography and climate conditions are described in greater detail specific to each air basin as listed below. These air basins are geographically defined because the travel of air pollution can be trapped by natural barriers like mountains unless the prevailing winds are powerful enough to disperse it to other areas.²⁰

South Coast Air Basin (SCAB)

The SCAB incorporates approximately 12,000 square miles, consisting of Orange County and the urbanized areas of San Bernardino, Riverside, and Los Angeles Counties. In May 1996, the boundaries of the SCAB were changed by CARB to include the Beaumont-Banning area. The distinctive climate of the

¹⁸ American Lung Association. 2018. *State of the Air 2018*. Available online at: <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>, accessed March 25, 2019.

¹⁹ The California Almanac of Emissions and Air Quality. 2013. *The California Almanac of Emissions and Air Quality*. Available online at: <http://www.arb.ca.gov/aqd/almanac/almanac13/almanac2013all.pdf>, accessed March 25, 2019.

²⁰ South Coast Air Quality Management District. *Southern California Air Basins*. Available online at: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf>, accessed March 25, 2019.

SCAB is determined by its terrain and geographic location. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.²¹

The vertical dispersion of air pollutants in the SCAB is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the SCAB is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basin-wide occurrence of inversions at 3,500 feet above sea level or less averages 191 days per year.²²

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, smog potential is greatly reduced.²³

Mojave Desert Air Basin (MDAB)

The MDAB encompasses approximately 21,480 square miles and includes the desert portions of San Bernardino County, Palo Verde Valley, Palmdale, and Lancaster in the Antelope Valley. The MDAB is bordered by the SCAB and the Riverside County line to the south, Kern County line to the west, the Arizona and Nevada borders to the north and east, and the eastern portion of Riverside County to the southeast.²⁴ The Kern County portion of MDAB is not in the SCAG region.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes.²⁵ Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the

²¹ South Coast Air Quality Management District. April 1993. CEQA Air Quality Handbook. P. A8-1.

²² Ibid.

²³ Ibid.

²⁴ California Air Resources Board, *California Air Basin Map*. Available online at: <https://ww3.arb.ca.gov/ei/maps/statemap/abmap.htm>, accessed August 9, 2019.

²⁵ Mojave Desert Air Quality Management District. August 2016. *CEQA and Federal Conformity Guidelines*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=192>, accessed August 23, 2019.

valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. The Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 feet elevation). The Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 feet). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (the Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley) whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation).²⁶ The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4 degrees Fahrenheit (°F).

Salton Sea Air Basin (SSAB)

The SSAB includes Imperial County and the desert portion of Riverside County between the SCAB and the MDAB (known as the Coachella Valley). Imperial County extends over 4,284 square miles in the southeastern corner of California, bordering on Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east. The Salton Trough runs northwest to southeast through the center of Imperial County and extends into Mexico. The elevation in Imperial

²⁶ County of Riverside. 2015. *County of Riverside General Plan Air Quality Element*. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_plan_2018/elements/Ch09_AQE_071718.pdf, accessed March 25, 2019.

County ranges from about 230 feet below sea level at the Salton Sea in the north to more than 2,800 feet on the mountain summits to the east.²⁷

Climatic conditions in the SSAB are governed by the large-scale sinking and warming of air in the semi-permanent subtropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in the winter when the high is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp marine air found in California coastal environs. Because of the weakened storms and the orographic barrier, the SSAB experiences clear skies, very low humidity, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.²⁸

The combination of subsiding air, protective mountains, and distance from the ocean severely limits precipitation. Rainfall is highly variable, with heavy precipitation occurring from single storms followed by periods of dry air. Humidity is typically low throughout the year, ranging from 28 percent in summer to 52 percent in winter.²⁹

The wind in Imperial County follows two general patterns. Prevailing winds are from the west-northwest through southwest. Also evident is a secondary flow maximum from the southeast. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour, and this occurs primarily during April and May. However, wind speeds of less than 6.8 miles per hour account for more than half of the observed wind measurements.³⁰

South Central Coast Air Basin (SCCAB)

The SCAG region includes the Ventura County portion of the SCCAB. Ventura County is made up of coastal mountain ranges, the coastal shore, the coastal plain, and several inland valleys.³¹ The northern half of the county (Los Padres National Forest) is extremely mountainous with altitudes up to 8,800 feet. Consequently, the climate in the northern half of the county varies a great deal depending on elevation.

²⁷ Imperial County Air Pollution Control District. 2017. *Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard*. September.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ventura County Air Pollution Control District. 2017. *Final 2016 Ventura County Air Quality Management Plan*. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed September 6, 2019.

Therefore, the climatological and meteorological description presented for Ventura County focuses on the southern half of the county where violations of federal and state ozone standards occur. In the winter, low-pressure systems originating in the northern Pacific Ocean bring clouds, rain, and wind into Ventura County.

The average annual temperature in the coastal and inland valleys of the southern half of Ventura County ranges from the upper 50s at the coast (Point Mugu) to the mid-60s in Simi Valley. The difference between the maximum and minimum temperatures becomes greater as the distance increases from the coast. The average minimum and maximum temperatures at Point Mugu are 50°F and 60°F, respectively, while at the inland location of Simi Valley, the averages are 52°F and 77°F. The smaller range of temperatures at Point Mugu demonstrates the moderating influence of the ocean on air temperature. The ocean's ability to warm and cool the air while its temperature remains relatively unchanged produces the moderating effect. Inland area temperatures are more prone to rapid fluctuations. Almost all rainfall in Ventura County falls during the winter and early spring (November through April). Summer rainfall is normally restricted to scattered thundershowers in lower elevations and somewhat heavier activity in the mountains. Humidity levels vary throughout the County. The range of humidity is primarily influenced by proximity to the ocean. Although the County's climate is semiarid, average humidity levels are relatively high due to the marine influence. Coastal areas are more humid than inland areas during typical fair weather. The reverse is true during stormy periods. The lowest humidity levels are recorded during Santa Ana wind conditions.

Ventura County winds are dominated by a diurnal land-sea breeze cycle. The land-sea breeze regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana wind flows. Since the sea breeze is stronger than the land breeze, the net wind flow during the day is from west to east. Under light land-sea breeze regimes, recirculation of pollutants can occur as emissions move westward during morning hours, and eastward during the afternoon. This can cause a buildup of pollutants over several days.

The vertical dispersion of air pollutants in Ventura County is limited by the presence of persistent temperature inversions. Approximately 60 percent of all inversions measured at Point Mugu are surface based, with most occurring during the morning hours.

Regional Air Quality

In Southern California, the American Lung Association consistently gives counties within the SCAG region failing grades in the amount of ozone and particulate pollution in the air. The American Lung Association has assigned grades to each of the Counties in the SCAG region for 2018 (**Table 3.3-1**,

American Lung Association Report Card for SCAG Region). Grades were calculated from a weighted average based on the total number of days in each air quality index level. The weighted average was derived by counting the number of days in each unhealthy range in each year (2014–2016), multiplying the total in each range by the assigned standard weights, and calculating the average. All six counties in the SCAG region received a failing grade for ozone, which means there were a significant number of unhealthy air days relative to the ozone standard. For ozone, an “F” grade was set to generally correlate with the number of unhealthy air days that would place a county in nonattainment for the ozone standard. For short-term particle pollution, fewer unhealthy air days are required for an F than for nonattainment under the PM_{2.5} standard. For PM_{2.5}, the national standard allows 2 percent of days in a three-year period to exceed 35 µg/m³, which is roughly 21 unhealthy days in three years, but the American Lung Association uses a more restrictive 1 percent or 99th percentile limit to protect the public from short term spikes in pollution.

**Table 3.3-1
American Lung Association Report Card for SCAG Region**

County	Ozone Grade	Particle Pollution Grade
Imperial	F	F
Los Angeles	F	F
Orange	F	D
Riverside	F	F
San Bernardino	F	F
Ventura	F	A

Source: American Lung Association. 2018. *State of the Air 2018*. Available at: <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>

Particle Pollution

In December 2009, the U.S. EPA linked fine particle pollution (PM_{2.5}) to public health impacts. The U.S. EPA determined that fine particle pollution could cause early death, cardiovascular harm, respiratory harm, cancer, and reproductive and developmental harm. In the short term, particle pollution reduces lung function and increases lung tissue inflammation in young, healthy adults. Short-term exposure increases emergency room visits for patients with acute respiratory illnesses, increases number of heart attacks, increases school absenteeism, increases hospitalization of children with asthma, and can even result in deaths on days of high levels of particle pollution.³² Asthma in the SCAG region ranges from 32

³² American Lung Association. 2018. *State of the Air 2018*. Available online at: <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>, accessed March 25, 2019.

to 89 per 10,000 people (**Table 3.3-2, Population-Weighted Asthma Rate per 10,000**). Asthma rates are a good indicator of population sensitivity to environmental stressors because asthma is both caused by and exacerbated by pollutants.

**Table 3.3-2
Population Weighted Asthma Rate per 10,000**

County	Asthma Rate per 10,000
Imperial	89
Los Angeles	52
Orange	32
Riverside	47
San Bernardino	67
Ventura	38
SCAG region	49

Source: CalEnviroScreen3.0 - age-adjusted rate of emergency department (ED) visits for asthma per 10,000 (2018 Update).

In 2014, the World Health Organization's International Agency for Research on Cancer linked long-term exposure to particle pollution to increased risk of developing lung cancer.³³ Other studies have shown long-term particle pollution exposure increases hospitalization of children with asthma living near busy roads with heavy truck traffic, reduces lung function in children and teenagers, damages small airways of the lungs, increases risk of death from cardiovascular disease, and increases risk of lower birth weight and infant mortality.³⁴

Particle pollution particularly has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses. In March 2015, the Office of Environmental Health Hazard Assessment (OEHHA) amended their Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments to consider the impact of age, breathing rates, and exposure levels into their cancer risk calculation methodology.³⁵

Particulate matter pollution is anticipated to increase due to climate change, which can lead to worsening asthma symptoms, chronic obstructive pulmonary disease (COPD), and respiratory infections associated

³³ World Health Organization International Agency for Research on Cancer. 2014. *World Cancer Report 2014*.

³⁴ American Lung Association. 2018. *State of the Air 2018*. Available online at: <https://www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2018-full.pdf>, accessed March 25, 2019.

³⁵ Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines for Guidance Manual for Preparation of Health Risk Assessments*. Available online at: <https://oehha.ca.gov/media/downloads/cmr/2015guidancemanual.pdf>, accessed March 25, 2019.

to premature mortality. Increasing temperatures due to climate change are also anticipated to lead to an increase in wildfires across California. Wildfires are a significant source of smoke and particulate matter exposure. The risk from fires persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by the winds.³⁶

Figure 3.3-1, Annual Average Concentration of PM2.5, shows the average annual exposure to PM2.5 in the SCAG region for years 2012 to 2014. South Los Angeles County, northeast Orange County, southwest San Bernardino County, and northwest Riverside County experienced the highest average annual exposure to PM2.5. The metropolitan area by El Centro and Calexico in Imperial County also show high average annual exposure to PM2.5. Average concentrations in these high exposure areas range from 10.1 to 14.6 micrograms of PM2.5 per cubic meter of air. This is below the federal 15 µg/m³ standard, but above the state standard of 12 µg/m³.

Ozone

Ozone is formed when sunlight reacts with NO_x, VOCs, and/or CO. These compounds are typically found in vehicle exhaust but can also be released into the atmosphere from other sources like chemical solvents, power plants, gas stations, paints, and refineries. In February 2013, the U.S. EPA published the “Integrated Science Assessment for Ozone and Related Photochemical Oxidants.” The report concluded that ozone pollution causes respiratory harm, is likely to cause early death and cardiovascular harm, may cause harm to the central nervous system, and may cause reproductive and developmental harm.³⁷ High levels of ozone can result in premature death and stroke, acute breathing problems like shortness of breath, wheezing, and coughing, asthma attacks, increase in risk of respiratory infection, increase susceptibility to pulmonary inflammation, and increase in hospitalization and emergency room visits for those with asthma, chronic obstructive pulmonary disease, cardiovascular disease and lung disease. Long term ozone exposure is connected to higher risk of death from respiratory diseases, higher risk of hospitalization for children with asthma especially those that are also low income, higher risk of developing asthma, lower birth weight and decreased lung function in newborns.³⁸ Similar to particle pollution, ozone has a detrimental effect on sensitive populations including children, elderly, and those with respiratory or cardiovascular illnesses.

Figure 3.3-2, Maximum 8-Hour Ozone Concentrations (ppm), shows the average daily O₃ exposure in the SCAG region that is in excess of the national 8-hour standard (0.070 ppm) in the SCAG region for years 2012 to 2014. Although the region largely experiences average daily ozone exposure exceeding the

³⁶ Southern California Association of Governments. 2019. *Public Health Draft Technical Report*.

³⁷ Ibid.

³⁸ Ibid.

federal standard, the highest concentration of ozone exposure can be seen mostly in southwest San Bernardino and northwest Riverside Counties, and also in northwest Los Angeles County.

Sensitive Receptors

There are many sensitive receptors located throughout the SCAG region. Some persons, such as those with respiratory illnesses or impaired lung function due to other illnesses, people with cardiovascular diseases or diabetes, the elderly over 65 years of age, and children under 14 years of age, can be particularly sensitive to emissions of criteria pollutants. These are the populations most at risk to poor air quality. Facilities and structures where sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses identified by SCAQMD in the CEQA Air Quality Handbook to be sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Attainment Status

NAAQS

The federal CAA sets NAAQS for the main criteria air pollutants: NO_x, VOC, PM_{2.5}, PM₁₀, SO_x, CO, and lead. Attainment and nonattainment of the NAAQS is variable throughout the counties within the SCAG region (**Table 3.3-3, 2019 Nonattainment in Counties in the SCAG Region for All Criteria Pollutants by County by NAAQS**).

CAAQS

CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards such as visibility reducing particles and vinyl chloride (**Table 3.3-4, CAAQS Area Designations**).

**Table 3.3-3
2019 Nonattainment Areas in the SCAG Region
for all Criteria Pollutants by County by NAAQS**

Imperial County	
PM-10 (1987)	Imperial Valley, CA - (Serious)
PM-2.5 (2006)	Imperial Co, CA - (Moderate)
PM-2.5 (2012)	Imperial Co, CA - (Moderate)
8-Hr Ozone (2015)	Imperial Co, CA - (Marginal)
Los Angeles County	
Lead (2008)	Los Angeles County-South Coast Air Basin, CA
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Orange County	
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Riverside County	
PM-10 (1987)	Coachella Valley, CA - (Serious)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
8-Hr Ozone (2015)	Riverside Co, (Coachella Valley), CA - (Severe 15)
San Bernardino County	
PM-10 (1987)	San Bernardino Co, CA - (Moderate)
PM-10 (1987)	Trona, CA - (Moderate)
PM-2.5 (1997)	Los Angeles-South Coast Air Basin, CA - (Moderate)
PM-2.5 (2006)	Los Angeles-South Coast Air Basin, CA - (Serious)
PM-2.5 (2012)	Los Angeles-South Coast Air Basin, CA - (Moderate)
8-Hr Ozone (2015)	Los Angeles-San Bernardino Counties (West Mojave Desert), CA - (Severe 15)
8-Hr Ozone (2015)	Los Angeles-South Coast Air Basin, CA - (Extreme)
Ventura County	
8-Hr Ozone (2015)	Ventura County, CA - (Serious)

Source:

U.S. Environmental Protection Agency. 2019. U.S. EPA Green Book. Current nonattainment counties for all criteria pollutants. Available online at: <https://www.epa.gov/green-book>, accessed March 27, 2019.

**Table 3.3-4
CAAQS Area Designations**

Air Basin	Ozone	PM2.5	PM10	CO	NO ₂	SO ₂	Sulfates	Hydrogen Sulfide (HS)	Pb	Visibility Reducing Particles
Mojave Desert	Nonattainment	San Bernardino County portion of federal Southeast Desert Modified AQMA for Ozone (N); Remainder of Air Basin (U)	Nonattainment	Kern County (MDAB) (U); Los Angeles County (MBAB) (A); Riverside County (MDAB) (U); San Bernardino County (MDAB) (A)	Attainment	Attainment	Attainment	Kern County (MDAB) (U); Los Angeles County (MDAB)(U); Riverside County (MDAB)(U); San Bernardino County Searles Valley Planning Area (MDAB)(N)	Attainment	Unclassified
Salton Sea	Nonattainment	City of Calexico (N), Remainder of County (A)	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified
South Central Coast (Ventura County)	Nonattainment	Attainment	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified
South Coast	Nonattainment	Nonattainment	Nonattainment	Attainment	Attainment	Attainment	Attainment	Unclassified	Attainment	Unclassified

Source: California Air Resources Board. 2017. Area Designations (Activities and Maps). Available online at: <http://www.arb.ca.gov/degis/changes.htm#summaries>, accessed March 27, 2019.

Existing Criteria Pollutant Emissions

The existing conditions (base year 2019) of the criteria pollutant emissions for the six counties in the SCAG region are shown in **Table 3.3-5, Criteria Pollutant Emissions by County—Existing Conditions (2019)**.

**Table 3.3-5
Criteria Pollutant Emissions by County—Existing Conditions (2019)**

County	(Tons/Day)								
	ROG		NOx			CO	PM10	PM2.5	SOx
	Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	3	3	6	7	7	19	0.5	0.2	0.0
Los Angeles	52	50	88	95	93	397	14.2	6.3	1.1
Orange	15	15	22	23	23	111	4.7	2.1	0.3
Riverside	14	12	32	34	34	87	3.9	1.7	0.3
San Bernardino	16	14	38	40	39	99	4.1	1.8	0.3
Ventura	4	4	6	7	7	30	1.1	0.5	0.1

Source: SCAG Transportation Modeling, 2019.

The SCAG region is encompassed by CARB’s air quality monitoring program. The air monitoring stations collect ambient level measurements for criteria pollutants. The data generated are used to define the nature and severity of pollution in California; determine which areas of California are in attainment or non-attainment; identify pollution trends in the state; support agricultural burn forecasting; and develop air models and emission inventories.³⁹ There are 64 active air monitoring stations in the SCAG region: nine in Imperial County, 15 in Los Angeles County, five in Orange County, 15 in Riverside County, 14 in the San Bernardino County, and six in Ventura County. These monitoring stations are shown in **Figure 3.3-3, Air Quality Basins and Monitoring Stations**.⁴⁰

Health Risk Assessment

The Health Risk Assessment (HRA) (**Appendix 3.3**) assesses the potential carcinogenic risk to persons potentially exposed to harmful diesel exhaust emissions near freeways within the SCAG region. Using EMFAC2014, exhaust diesel particulate matter (DPM, modeled as PM2.5 and PM10) is modeled because DPM has carcinogenic health effects. Cancer risk is used as a proxy for overall health effects in this

³⁹ California Air Resources Board. 2015. *Ambient Air Quality Monitoring*. Available online at: <http://www.arb.ca.gov/aaqm/aaqm.htm>, accessed March 25, 2019.

⁴⁰ California Air Resources Board. *Quality Assurance Air Monitoring Site Information*. Available online at: <https://ww3.arb.ca.gov/qaweb/site.php>, accessed March 20, 2019.

assessment. Discussed in more detail in **Appendix 3.3** and **Chapter 4.0, Alternatives**, of this PEIR, the model simulates five conditions: existing conditions, 2045 No Project, 2045 under Connect SoCal, and 2045 under project alternatives (Local Input, Intensified Land Use) alternative scenarios containing variations on land use and transportation projects and strategies. Comparison between the existing conditions and the Plan is described in **Section 3.3.4, Environmental Impacts**.

Emissions and cancer risk are evaluated along 16 transportation corridors. The corridors were determined in prior RTP/SCS PEIRs primarily based on highest traffic volumes, highest heavy duty diesel truck volumes (HDDT) as well as proximity to sensitive receptors. Quantitative modeling of the entire length of each freeway corridor (some of which extend more than 90 miles) is impractical and therefore representative high-volume segments were selected.

For this analysis, 16 transportation segments (previously evaluated in the 2016 RTP/SCS PEIR) were evaluated. By selecting the same 16 segments as evaluated in 2016, it affords an opportunity to view progress since the adoption of the 2016 RTP/SCS. Eight of the sixteen segments were also previously evaluated in the 2012 RTP/SCS. When selecting the additional eight segments for analysis in 2016, SCAG ranked potential transportation segments by the volume of HDDT traffic. Segments were then ranked again based on the density of sensitive receptors. Using these rankings, one segment was chosen in each county and an additional two segments in Los Angeles and Riverside Counties were chosen based on heavy-duty diesel traffic. These sixteen segments were then quantitatively modeled for increased cancer risk (see **Table 3.3-16, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk**).

HDDT comprise the majority of DPM emissions. An AERMOD dispersion model was used to calculate the anticipated DPM concentrations at identified receptors out to 1,000 meters away from each freeway segment. Risk calculations were undertaken for worker, residential, and school sensitive receptors. **Table 3.3-17, Summary Maximum Exposed Individual Residential 30-year Exposure Cancer Risk** presents a summary of the cancer risk per million exposed persons for each of the six scenarios and 16 freeway segments. The HRA (see **Appendix 3.3**) also includes a discussion comparing the health risk calculations at each segment under Connect SoCal as well as the plans from the 2012 RTP/SCS and 2016 RTP/SCS.

Ambient Air Quality

The five air districts in the SCAG region each monitor air quality conditions in their region. The characterization of the ambient air quality in relation to criteria pollutants was based on peak readings of criteria pollutants in the SCAG air basins (**Table 3.3-6, Peak Criteria Pollutants Readings for the SCAG Region Air Basins**). The data shows that O₃, PM_{2.5}, and PM₁₀ readings consistently exceeded the standards in each of the air basins.

Table 3.3-6
Peak Criteria Pollutants Readings for the SCAG Region Air Basins

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
South Coast Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.163		83	10	0.158		109	14	0.142		84	7
	8-hour	0.07 ppm (137 µg/m ³)	0.07 ppm (137 µg/m ³)	0.121		132	132	0.136		148	145	0.125		141	141
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	CA 277.8	Federal 277.0	152 (Estimated)	1*	CA 137.6	Federal 258.2	115	2	CA 126.0	Federal 230.2	139	1
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³	CA 110.5	Federal 58.8	—	10	CA 109.6	Federal 85.4	—	18	CA 111.0	Federal 103.8	—	17
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	3.96		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 95	Federal 95.3	0	0	CA115	Federal 115.5	0	1	CA 90	Federal 90.3	0	0

3.3 Air Quality

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
Mojave Desert Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.132		34	3	0.156		47	4	0.126		39	1
	8-hour	0.07 ppm (137 µg/m ³)	0.07 ppm (137 µg/m ³)	CA 0.110	Federal 0.109	103	98	CA 0.119	Federal 0.118	103	99	CA 0.107	Federal 0.107	129	123
Respirable Particulate Matter (PM10)	24-hour	50 µg/m ³	150 µg/m ³	CA 203.5	Federal 246.9	19	2	CA 85.7	Federal 262.3	10*	1*	CA 103.2	Federal 165.2	19*	1
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m ³	CA 64.8	Federal 64.8	—	3	CA 29.3	Federal 27.2	—	0	CA 40.4	Federal 40.4	—	3
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	0		0	0	1.83		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	CA 223	Federal 223.1	2	4	CA 61	Federal 61.3	0	0	CA 59	Federal 59.2	0	0
Salton Sea Air Basin															
Ozone (O ₃)	1-hour	0.09 ppm (180 µg/m ³)	—	0.108		6	0	0.122		18	0	0.111		11	0
	8-hour	0.07 ppm (137 µg/m ³)	0.07 ppm (137 µg/m ³)	CA 0.092	Federal 0.092	61	58	CA 0.097	Federal 0.097	78	73	CA 0.099	Federal 0.099	81	77

3.3 Air Quality

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal	CA	Federal
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 265.8	Federal 732.9	136	18	CA 410.2	Federal 477.6	152	5	CA 419.0	Federal 422.3	176	2
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 57.9	Federal 57.9	—	6	CA 187.5	Federal 49.1	—	6	CA 90.6	Federal 90.6	—	6
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	4.47		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO₂)	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	CA 84	Federal 84.5	0	0	CA 73	Federal 73.6	0	0	CA 73	Federal 73.0	0	0
South Central Coast Air Basin															
Ozone (O₃)	1-hour	0.09 ppm (180 µg/m³)	—	0.096		1	0	0.111		4	0	0.103		3	0
	8-hour	0.07 ppm (137 µg/m³)	0.07 ppm (137 µg/m³)	CA 0.088	Federal 0.088	20	16	CA 0.095	Federal 0.094	29	25	CA 0.093	Federal 0.092	21	19
Respirable Particulate Matter (PM10)	24-hour	50 µg/m³	150 µg/m³	CA 263.9	Federal 436.1	77	10	CA 410.0	Federal 399.8	99	10	CA 208.4	Federal 209.0	55	2
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m³	CA 35.3	Federal 35.2	—	0	CA 557.0	Federal 557.0	—	13	CA 46.8	Federal 46.8	—	4

3.3 Air Quality

Pollutant	Period	Pollutant Standards		2016 Peak Criteria Reading		Days in Excess of Standards 2016		2017 Peak Criteria Reading		Days in Excess of Standards 2017		2018 Peak Criteria Reading		Days in Excess of Standards 2018	
		CA	Federal			CA	Federal			CA	Federal			CA	Federal
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	1.11		0	0	0		0	0	—		0	0
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm (338 µg/m ³)	100 ppb (190 µg/m ³)	CA 52	Federal 52.1	0	0	CA 46	Federal 46.0	0	0	CA 49	Federal 49.0	0	0

Source:

California Air Resources Board. Accessed 1 October 2019. Top 4 summary: select pollutant, years, & area. Available at: <http://www.arb.ca.gov/adam/topfour/topfour1.php>

* Insufficient data available to determine the value. Measured days equal to number presented.

3.3.3 REGULATORY FRAMEWORK

3.3.3.1 Federal

Federal Clean Air Act

Congress passed the first major Clean Air Act (CAA) in 1970 (42 U.S. Code [USC] Sections 7401 et seq.). This Act gives the EPA broad responsibility for regulating motor vehicle emissions from many sources of air pollution from mobile to stationary sources. Pursuant to the CAA, the EPA is authorized to regulate air emissions from mobile sources like heavy-duty trucks, agricultural and construction equipment, locomotives, lawn and garden equipment, and marine engines; and stationary sources such as power plants, industrial plants, and other facilities. The CAA sets National Ambient Air Quality Standards (NAAQS) for the six most common air pollutants to protect public health and public welfare. These pollutants include particulate matter, ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. For each pollutant, the EPA designates an area as attainment for meeting the standard or nonattainment for not meeting the standard. A maintenance designation entails an area that was previously designated as nonattainment but is currently designated as attainment. The CAA directs states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards.⁴¹

CAA Section 112(f) and 112(d): National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Section 112 of the CAA addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 CAAA revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. “Major sources” are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An “area source” is any stationary source that is not a major source.⁴²

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as “maximum achievable control technology” or MACT standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those

⁴¹ U.S. Environmental Protection Agency. *Summary of the Clean Air Act 42 U.S.C. §7401 et seq. (1970)*. Available online at: <https://www.epa.gov/laws-regulations/summary-clean-air-act>, accessed August 23, 2019.

⁴² Ibid.

standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.⁴³

The Risk and Technology Review (RTR) is a combined effort to evaluate both risk and technology as required by the CAA after the application of MACT standards. Section 112(f) of the CAA requires EPA to complete a report to Congress that includes a discussion of methods the EPA would use to evaluate the risks remaining after the application of MACT standards. These are known as residual risks. EPA published the Residual Risk Report to Congress (PDF) in March 1999. Section 112(f)(2) directs EPA to conduct risk assessments on each source category subject to MACT standards, and to determine if additional standards are needed to reduce residual risks. Section 112(d)(6) of the CAA requires EPA to review and revise the MACT standards, as necessary, taking into account developments in practices, processes and control technologies.⁴⁴

National Ambient Air Quality Standards (NAAQS)

The federal CAA required the U.S EPA to establish NAAQS. The NAAQS set primary standards and secondary standards for specific air pollutants. Primary standards define limits for the intention of protecting public health, which include sensitive populations such as asthmatics, children, and the elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation, and buildings. A summary of the federal ambient air quality standards is shown in **Table 3.3-7, National Ambient Air Quality Standards**.

⁴³ Ibid.

⁴⁴ Ibid.

**Table 3.3-7
National Ambient Air Quality Standards**

Pollutant	Primary/Secondary	Averaging Time	Level	
Carbon Monoxide	Primary	8 hours	9 ppm	
		1 hour	35 ppm	
Lead	Primary and secondary	Rolling 3-month average	0.15 µg/m ³	
Nitrogen dioxide	Primary	1 hour	100 ppb	
	Primary and secondary	Annual	0.053 ppm	
Ozone	Primary and secondary	8 hours	0.070 ppm	
Particulate Matter	PM2.5	Primary	12 µg/m ³	
		Secondary	15 µg/m ³	
		Primary and secondary	24 hours	35 µg/m ³
	PM10	Primary and secondary	24 hours	150 µg/m ³
Sulfur dioxide	Primary	1 hour	75 ppb	
	Secondary	3 hours	0.5 ppm	

Source: California Air Resources Board. May 2016. Ambient Air Quality Standards. Available online at: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, accessed November 16, 2018.

State Implementation Plan (SIP)/ Air Quality Management Plans (AQMPs)

A SIP is required by the EPA to ensure compliance with the NAAQS. States must develop a general plan to maintain air quality in areas of attainment and a specific plan to improve air quality for areas of nonattainment. SIPs are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The SIP verifies that the state has a proper air quality management program that adheres to or strives to reach the most up to date emissions requirements.⁴⁵ The 1990 amendments to the federal CAA set deadlines for attainment based on the severity of an area's air pollution problem. In adherence to CAA Section 172, states must adopt additional regulatory programs for nonattainment areas.⁴⁶ Particularly in California, the SIP not only complies with NAAQS, but also the more stringent CAAQS.

AQMPs are required to ensure compliance with the state and federal requirements. AQMPs contain scientific information and use analytical tools to demonstrate a pathway towards achieving attainment for the criteria air pollutants. Within the SCAG region, five air districts—SCAQMD, Mojave Desert Air

⁴⁵ U.S. Environmental Protection Agency. *Basic Information about Air Quality SIPs*. Available online at: <https://www.epa.gov/sips/basic-information-air-quality-sips>, accessed August 23, 2019.

⁴⁶ U.S. Environmental Protection Agency. *The Clean Air Act – Highlights of the 1990 Amendments*. Available online at: https://www.epa.gov/sites/production/files/2015-11/documents/the_clean_air_act_-_highlights_of_the_1990_amendments.pdf, accessed August 23, 2019.

Quality Management District (MDAQMD), Imperial County Air Pollution Control District (ICAPCD), Antelope Valley Air Quality Management District (AVAQMD), and the Ventura County Air Pollution Control District (VCAPCD)—are responsible for developing the AQMPs.⁴⁷ The approval process begins when the regional air districts submit their AQMPs to the CARB. CARB is the lead agency and responsible agency for submitting the SIP to the EPA. CARB forwards SIP revisions to the EPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all of the items included in the California SIP.⁴⁸

Transportation Conformity

Transportation conformity is required under federal CAA Section 176(c) to ensure that federally supported highway and transit project activities are consistent with (“conform to”) the purpose and requirements of the SIP. Conformity currently applies to areas that are designated nonattainment, and those redesignated to attainment after 1990 (“maintenance areas” with plans developed under CAA Section 175A) for the following transportation-related criteria pollutants: ozone, particulate matter (PM_{2.5} and PM₁₀), CO, and NO₂. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. The transportation conformity regulation is found in 40 CFR Part 93. Conformity requires reporting on the timely implementation of Transportation Control Measures (TCMs) in ozone nonattainment areas designated as serious or worse, thus reinforcing the link between AQMP/SIPs and the transportation planning process. TCMs are expected to be given funding priority and to be implemented on schedule, and in the case of any delays, any obstacles to implementation have been or are being overcome. In the SCAG region, there are two areas for which the ozone SIPs contain TCMs: SCAB and the Ventura County portion of SCCAB. (It is noted that the Ventura County SIP does not claim emission reduction credits from TCM projects. They have been included to assist transportation and air quality agencies to identify projects that have the potential of reducing vehicle emissions, vehicle trips, and vehicle miles traveled.)⁴⁹

⁴⁷ Southern California Association of Governments. *Air Quality Management Plans*. Available online at: <http://www.scag.ca.gov/programs/Pages/ManagementPlans.aspx>, accessed November 12, 2018.

⁴⁸ Government Publishing Office. *40 CFR 52.220*. Available online at: <https://www.govinfo.gov/app/details/CFR-2013-title40-vol3/CFR-2013-title40-vol3-sec52-220>, accessed August 23, 2019.

⁴⁹ U.S. Environmental Protection Agency. 2009. *Guidance for Implementing the Clean Air Act Section 176(c)(8) Transportation Control Measure Substitution and Addition Provision*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P1002W66.PDF?Dockey=P1002W66.PDF>, accessed August 23, 2019.

Federal CAA Rules

The mobile and stationary sources of emissions are subject to different rules and regulations. For the mobile sources, the rules apply to cars, trucks, buses, recreational vehicles, engines, generators, farm and construction machines, lawn and garden equipment, marine engines, and locomotives. In addition, the compositions of fuels used to operate mobile sources are regulated to help reduce harmful emissions. For stationary resources including factories and chemical plants, pollution control equipment are installed to meet specific emission limits set under the CAA. The New Source Review (NSR) and Prevention of Significant Deterioration (PSD) require large industrial operators such as coal-fired power, acid, glass, and cement plants and petroleum refineries to make modifications to existing facilities or install new controls resulted in emissions of pollutants on new facilities to reduce degradation and harm against public health. EPA works with its federal partners through CAA to ensure compliance with rules through active monitoring and to make sure that the regulated community obeys environmental laws/regulations through on-site inspections and record reviews that lead to enforcement in order to meet environmental regulatory requirements.⁵⁰

Clean Air Act Waiver for California's GHG Emission Standards for New Motor Vehicles

Due to the unique topography and rapid population increase within the Los Angeles basin, federal standards may not be effective enough to meet clean air standards, therefore the state was granted the ability to create stricter standards than set by the CAA. Utilizing the ability to set stricter emission standards, California was granted a waiver of the CAA in July 2009 so that the state may set its own vehicle emission standards for new motor vehicles in order to reduce GHG and ozone emissions.⁵¹ In 2018, the Trump administration announced that the government would ease the federal vehicle fuel standards. As a response, and as a result of the autonomy provided by this waiver, California along with four major antimanufacturing companies pledged to produce vehicle fleets averaging approximately 50 miles per gallon (mpg) by 2026.

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel

⁵⁰ U.S. Environmental Protection Agency. 2019. *New Source Review (NSR) Permitting*. Available online at: <https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information>, accessed August 23, 2019.

⁵¹ Federal Register. 2009. *Environmental Protection Agency: California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2009-07-08/pdf/E9-15943.pdf>, accessed September 18, 2019.

economy for automobiles and light duty trucks. The rule revokes California’s Clean Air Act waiver and preempts California’s Advanced Clean Car Regulations and may potentially impact SCAG’s Connect SoCal and transportation projects in the SCAG region.^{52, 53} On September 20, 2019, a lawsuit was filed by California and a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule and arguing that EPA lacks the legal authority to withdraw the California waiver. At the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.⁵⁴

Mobile Source Air Toxics (MSAT) Modeling and Programs

MOVES2014. In 2010, the EPA released the emission model, the Motor Vehicle Emissions Simulator (MOVES). On February 8, 2011, EPA issued guidance on “Using the MOVES and Emission Factors (EMFAC) Models in NEPA Evaluation” that recommended a two-year grace period be applied to project-level emissions analysis for NEPA purposes. At the end of this grace period, that is, beginning December 20, 2012, Lead Agencies should use MOVES to conduct emissions analysis for NEPA purposes. To prepare for this transition, FHWA is updating the September 2009 Interim Guidance to incorporate the analysis conducted using MOVES. Based on FHWA’s analysis using MOVES2010 diesel particulate matter (diesel PM) has become the dominant MSAT of concern. MOVES2014, the latest version of MOVES, was released in October 2014, and incorporates the Tier 3 Rule and other EPA rulemakings since the last MOVES release.

The U.S. EPA has adopted several mobile source emission control programs such as:⁵⁵

Control of Hazardous Air Pollutants from Mobile Sources. In February 2007, EPA finalized this rule to reduce hazardous air pollutants from mobile sources. The rule limits the benzene content of gasoline and reduces toxic emissions from passenger vehicles and gas cans. EPA estimates that in 2030 this rule would

⁵² U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100XI4W.pdf>, accessed October 29, 2019.

⁵³ Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report)*. Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

⁵⁴ If the SAFE Rule remains in place, the state and region would have to develop other means of achieving the NAAQS.

⁵⁵ U.S. Environmental Protection Agency. *Mobile Source Pollution and Related Health Effects*. Available online at: <https://www.epa.gov/mobile-source-pollution>, accessed November 12, 2018.

reduce total emissions of mobile source air toxics by 330,000 tons and VOC emissions (precursors to ozone and PM_{2.5}) by over 1 million tons.⁵⁶

Heavy-Duty Onboard Diagnostic Rule (74 FR 8310). In February 2009, the EPA published a final rule, requiring that these advanced emissions control systems be monitored for malfunctions via an onboard diagnostic system (OBD), similar to those systems that have been required on passenger cars since the mid-1990s. This final rule will require manufacturers to install OBD systems that monitor the functioning of emission control components and alert the vehicle operator to any detected need for emission related repair.⁵⁷

Small SI and Marine SI Engine Rule (73 FR 25098). Published October 2008, these exhaust emission standards applied starting in 2010 for new marine spark-ignition (SI) engines, including first-time EPA standards for sterndrive and inboard engines. The exhaust emission standards applied starting in 2011 and 2012 for different sizes of new land based, spark-ignition engines at or below 19 kilowatts (kW). These small engines are used primarily in lawn and garden applications. Estimated annual nationwide reductions are anticipated to be 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NO_x emissions, and 5,500 tons of directly emitted particulate matter (PM_{2.5}) emissions.⁵⁸

Locomotive and Commercial Marine Rule (66 FR 5002). Published May 2008, the controls apply to all types of locomotives, including line-haul, switch, and passenger, and all types of marine diesel engines below 30 liters per cylinder displacement, including commercial and recreational, propulsion and auxiliary. The near-term program, which started in 2009, includes new emission limits for existing locomotives and marine diesel engines that apply when they are remanufactured, and take effect as soon as certified remanufacture systems are available. The long-term emissions standards for newly built locomotives and marine diesel engines are based on the application of high-efficiency catalytic after-

⁵⁶ U.S. Environmental Protection Agency. 2007. *Control of Hazardous Air Pollutants from Mobile Sources; Final Rule*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2007-02-26/pdf/E7-2667.pdf>, accessed August 23, 2019.

⁵⁷ U.S. Environmental Protection Agency. 2009. *Control of Air Pollution from New Motor Vehicle Engines; Final Rule*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2009-02-24/pdf/E9-2405.pdf>, accessed August 23, 2019.

⁵⁸ U.S. Environmental Protection Agency. 2008. *EPA Finalizes Emission Standards for New Nonroad Spark-Ignition Engines, Equipment, and Vessels*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P10017GK.PDF?Dockey=P10017GK.PDF>, accessed August 29, 2019.

treatment technology. These standards take effect in 2015 for locomotives and in 2014 for marine diesel engines.⁵⁹

Clean Air Nonroad Diesel Rule (65 FR 6698). Published June 2004, this comprehensive national program regulates nonroad diesel engines and diesel fuel as a system. New engine standards took effect in the 2008 model year, phasing in over a number of years. These standards are based on the use of advanced exhaust emission control devices.⁶⁰

Heavy-duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (66 FR 5002). Published January 2001, the EPA established a comprehensive national control program to regulate the heavy-duty vehicle and its fuel as a single system. As part of this program, new emission standards took effect in model year 2007, and apply to heavy-duty highway engines and vehicles. These standards are based on the use of high-efficiency catalytic exhaust emission control devices or comparably effective advanced technologies.⁶¹

New Source Performance Standards (NSPS) for Stationary Engines. Nonroad diesel engines are used in excavators and other construction equipment, farm tractors and other agricultural equipment, heavy forklifts, airport ground service equipment, and utility equipment such as generators, pumps, and compressors.⁶² EPA has adopted multiple tiers of emission standards, including reducing emissions from nonroad diesel engines by integrating engine and fuel controls as a system. To meet these Tier 4 emission standards, engine manufacturers will produce new engines with advanced emission control technologies.⁶³

⁵⁹ U.S. Environmental Protection Agency. 2008. *Control of Emissions of Air Pollution From Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2008-06-30/pdf/R8-7999.pdf>, accessed August 23, 2019.

⁶⁰ U.S. Environmental Protection Agency. 2004. *Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2004-06-29/pdf/04-11293.pdf>, accessed August 23, 2019.

⁶¹ U.S. Environmental Protection Agency. 2001. *Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2001-01-18/pdf/01-2.pdf>, accessed August 23, 2019.

⁶² U.S. Environmental Protection Agency. *Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines*. Available online at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression>, accessed November 13, 2018.

⁶³ Ibid.

3.3.3.2 State

California Clean Air Act of 1988

The California CAA of 1988 (Chapter 1568, Statutes of 1988) requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for ozone, carbon monoxide, and nitrogen dioxide by the earliest practicable date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM10 standard. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting state requirements of the federal CAA, administrating the California CAA, and establishing the CAAQS. The California CAA, amended in 1992, requires all AQMDs in the state to achieve and maintain the CAAQS. The CAAQS are generally stricter than national standards for the same pollutants, but there is no penalty for nonattainment. California has also established state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles, for which there are no national standards.⁶⁴

California Ambient Air Quality Standards

The federal CAA permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants, such as particulate matter and ozone, which are more protective of public health than respective federal standards. California has also set standards for some pollutants that are not addressed by federal standards.⁶⁵ The state standards for ambient air quality are summarized in **Table 3.3-8, California Ambient Air Quality Standards**.

⁶⁴ Sacramento Metropolitan Air Quality Management District. *State Planning*. Available online at: <http://www.airquality.org/businesses/air-quality-plans/state-planning>, accessed September 3, 2019.

⁶⁵ CARB. *California Ambient Air Quality Standards (CAAQS)*. Available online at: <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>, accessed August 23, 2019.

**Table 3.3-8
California Ambient Air Quality Standards**

Pollutant		Averaging Time	Level
Carbon monoxide		8 hours	9 ppm
		1 hour	20 ppm
Lead		30-day average	1.5 µg/m ³
Nitrogen dioxide		1 hour	0.180 ppm
		Annual	0.030 ppm
Ozone		8 hours	0.070 ppm
		1 hour	0.09 ppm
Particulate matter	PM2.5	Annual	12 µg/m ³
	PM10	24 hours	50 µg/m ³
		Annual	20 µg/m ³
Sulfur dioxide		1 hour	0.25 ppm
		24 hours	0.04 ppm
Sulfates		24 hours	25 µg/m ³
Hydrogen sulfide		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm

Source:

California Air Resources Board. 2016. *Ambient Air Quality Standards*. May. Available online at: <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, accessed November 16, 2018.

California Health and Safety Code

Under the California Health and Safety Code, Division 26 (Air Resources), the ARB is authorized to adopt regulations to protect public health and the environment through the reduction of TACs and other air pollutants with adverse health effects. ARB has promulgated several mobile and stationary source airborne toxic control measures (ATCMs) pursuant to this authority. For instance, effective as of July 2003, ARB approved an ATCM that limits school bus idling and idling at or near schools to only when necessary for safety or operational concerns (13 CCR Chapter 10 Section 2480). This ATCM is intended to reduce diesel PM and other TACs and air pollutants from heavy-duty motor vehicle exhaust. It applies to school buses, transit buses, school activity buses, youth buses, general public paratransit vehicles, and other commercial motor vehicles. This ATCM focuses on reducing public exposure to diesel PM and other TACs, particularly for children riding in and playing near school buses and other commercial motor vehicles, who are disproportionately exposed to pollutants from these sources.⁶⁶ In addition, effective February 2005, the ARB approved an ATCM to limit the idling of diesel-fueled commercial

⁶⁶ CARB. *Amended Regulation: Airborne Toxic Control Measure to Limit School Bus Idling at Schools*. Available online at: <https://www3.arb.ca.gov/toxics/sbidling/sbvidling.pdf>, accessed August 23, 2019.

motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds, regardless of the state or country in which the vehicle is registered (13 CCR Chapter 10 Section 2485).⁶⁷

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) created the California Air Toxics Program in 1983. It established a two-step process of risk identification and risk management to address potential health effects associated with public exposure to toxic substances in the air. In the risk identification step, CARB and the OEHHA determine if a substance should be formally identified, or “listed,” as a TAC in California. Since inception of the program, a number of such substances have been identified and listed. In 1993, legislative amendments were enacted for the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce the risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time. These diesel-related measures are critical in reducing the statewide cancer risk and creating healthier communities.⁶⁸

CARB Air Toxics “Hot Spots” Information and Assessment Act of 1987

The California Air Toxics Program is supplemented by the Air Toxics “Hot Spots” program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics “Hot Spots” Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present.⁶⁹ In March 2015, the OEHHA adopted “The Air Toxics Hot Spots Program Guidance Manual for Preparation of

⁶⁷ CARB. §2485. *Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*. Available online at: https://ww3.arb.ca.gov/msprog/truck-idling/13ccr2485_09022016.pdf, accessed August 23, 2019.

⁶⁸ CARB. 2019. *California Air Toxics Program – Background*. Available online at: <https://ww3.arb.ca.gov/toxics/background.htm>, accessed August 23, 2019.

⁶⁹ Ibid.

Health Risk Assessments” in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50 percent since 2005.⁷⁰

The CARB provides a computer program, the Hot Spots Analysis and Reporting Program (HARP), to assist in a coherent and consistent preparation of an HRA. HARP2, an update to HARP, was released in March 2015. HARP2 has a more refined risk characterization in HRA and CEQA documents and incorporates the 2015 OEHHA Final Guidance.⁷¹

Multiple Air Toxics Exposure Study (MATES-IV)

To date, the most comprehensive study of air toxics in the South Coast Air Basin (SCAB) is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by Southern California Air Quality Management District (SCAQMD) in 2015. MATES combines monitoring of ambient air toxics, emissions inventories, and computer modeling to estimate the cancer risk from air pollution. The monitoring program measured over 30 air pollutants, including both gases and particulates. SCAQMD’s MATES IV found that the average cancer risk from air pollution across the region declined from 1,194 in 1 million during MATES III in 2005 to 418 in 1 million in 2012–2013 using similar methods of analysis. The risk reduction follows a trend of declining toxic emissions in the region since the first MATES study was conducted in 1987. MATES IV found that mobile sources are responsible for 90 percent of the risk.⁷²

The SCAQMD proposes the MATES V study as a follow up to the MATES IV study. The purpose of MATES V fixed monitoring is to characterize long-term regional air toxics levels in residential and

⁷⁰ OEHHA. 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines*. Available online at: <https://oehha.ca.gov/media/downloads/crnrr/2015guidancemanual.pdf>, accessed August 23, 2019.

⁷¹ CARB. *Hotspots Analysis and Reporting Program (HARP)*. Accessed online at: <https://ww3.arb.ca.gov/toxics/harp/harp.htm>, accessed August 23, 2019.

⁷² SCAB. May 2015. *Final Report Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES-IV*. Available online at: <https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>, accessed August 23, 2019.

commercial areas. The MATES V study proposes to study air toxics for a one-year period at ten fixed sites beginning in January 2019.⁷³

Senate Bill 656 (Chapter 738, Statutes of 2003)

In 2003, the Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM10 and PM2.5. SB 656 required ARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by ARB and the air districts to reduce PM10 and PM2.5 (collectively referred to as PM).⁷⁴

The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for PM2.5, and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal PM2.5 attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress towards attaining California's more health protective standards. This list of air district control measures was adopted by the ARB on November 18, 2004. ARB also developed a list of State PM control measures for mobile and stationary sources, including measures planned for adoption as part of ARB's Diesel Risk Reduction Plan. The lists are at the following web site: <http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm>.

California Air Resources Board Mobile Source Programs

Emission Reduction Plan for Ports and Goods Movement

The CARB approved the 2006 Emission Reduction Plan for Ports and Goods Movement in California. The Plan is an essential component of California's effort to reduce community exposure to air pollution and to meet new federal air quality standards for ozone and fine particulate matter (PM2.5). The plan's goals are to:⁷⁵

1. Reduce total statewide international and domestic goods movement emissions to the greatest extent possible and at least back to 2001 levels by year 2010.

⁷³ South Coast Air Quality Management District. *MATES V Multiple Air Toxics Exposure Study*. Available online at: <http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-v>, accessed September 30, 2019.

⁷⁴ California Legislative Information. 2003. *Senate Bill No. 656, Chapter 738*.

⁷⁵ California Air Resources Board. 2006.. *Emission Reduction Plan for Ports Goods Movement in California*. April. Available online at: https://www.arb.ca.gov/planning/gmerp/plan/final_plan.pdf, accessed November 19, 2018.

2. Reduce the statewide diesel PM health risk from international and domestic goods movement 85 percent by year 2020.
3. Reduce NO_x emissions from international goods movement in the South Coast 30 percent from projected year 2015 levels, and 50 percent from projected year 2020 levels based on preliminary targets for attaining federal air quality standards.
4. Apply the emission reduction strategies for ports and goods movement statewide to aid all regions in attaining air quality standards.
5. Make every feasible effort to reduce localized risk in communities adjacent to goods movement facilities as expeditiously as possible.

Goods Movement Emission Reduction Program

In June 2015, CARB released the Proposition 1B: Goods Movement Emission Reduction Program Final 2015 Guidelines for Implementation. This program is designed to reduce diesel exhaust emissions from trucks, locomotives, ships, harbor craft, and cargo handling equipment. The guidelines shall include, at a minimum, all of the following:⁷⁶

- An application process for funds, and any limits on administration costs.
- Requirements that local agencies identify the useful life of the project and project delivery milestones as part of the application process.
- Criteria for selection of local and State agency projects and equipment projects.
- Requirements for match funding.
- The method by which ARB will consider the air basin's status in achieving State and federal air quality standards.
- Requirements that grant agreements between ARB and local agencies, and interagency agreements with other State agencies, identify project milestones, and remedies for failure to meet project milestones.

⁷⁶ California Air Resources Board. 2015. *Proposition 1B: Goods Movement Emission Reduction Program 2015 Guidelines for Implementation*. June. Available online at: https://ww3.arb.ca.gov/bonds/gmbond/docs/prop_1b_goods_movement_2015_program_guidelines_for_implementation.pdf, accessed August 23, 2019.

- Accountability and auditing requirements, including provisions for Program reviews or fiscal audits of project expenditures and outcomes.

ARB Staff shall evaluate the progress of the Program and any changes needed to improve its effectiveness, plus advances in technology and updated equipment costs that create a need to revise the list of equipment project options. These guidelines are designed and intended to effectuate the provisions of SB 88, AB 201, and AB 892.⁷⁷

CARB Small Off-road Engine (SORE) Exhaust Emission Standards

SORE engines include off-road spark-ignition engines that produce 19 kW gross power or less (less than 25 horsepower), including lawn and garden, industrial, logging, airport ground support, and commercial utility equipment; golf carts; and specialty vehicles. These emission standards apply to HC, NO_x, CO, and PM emissions with increasingly stricter standards from 1995 to 2013.⁷⁸

CARB Off-road Compression-Ignition Diesel Engine Exhaust Emission Standards

These engines include new compression-ignition engines (a.k.a. diesel engines) that are found in a wide variety of off-road applications such as farming, construction, and industrial. Some familiar examples include tractors, excavators, dozers, scrapers, portable generators, transport refrigeration units (TRUs), irrigation pumps, welders, compressors, scrubbers, and sweepers. This category, however, does not include locomotives, commercial marine vessels, marine engines over 37 kW, or recreational vehicles.⁷⁹

CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

This regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. The regulation applies to nearly all privately and federally owned diesel fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. In 2014, to void the flexibility options provided in the 2014 amendments to the Truck and Bus regulation, John R.

⁷⁷ Ibid.

⁷⁸ California Air Resources Board. *Small Off-Road Engine Exhaust Emission Standards*. Available online at: <https://www.arb.ca.gov/msprog/offroad/sore.pdf>, accessed November 19, 2018.

⁷⁹ California Air Resources Board. *New Off-Road Compression Ignition (Diesel) Engines and Equipment*. Available online at: <https://www.arb.ca.gov/msprog/offroad/orcomp/orcomp.htm>, accessed November 19, 2018.

Lawson Rock and Oil of Fresno and the California Trucking Association sued the California Air Resources Board. On January 31, 2018 the court ruled to void the 2014 amendments.⁸⁰

CARB Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation

This regulation applies to GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emissions limits on truck and engine manufacturers and harmonizes with the recently adopted U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.⁸¹ Executive Order (EO) B-32-15 and Sustainable Freight Action Plan

On July 17, 2015, Governor Brown issued Executive Order B-32-15, which directs the Secretary of the California State Transportation Agency, the Secretary of Cal/EPA, and the Secretary of the Natural Resources Agency to lead other relevant state departments in developing an integrated action plan that will improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. The plan is informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, and the Integrated Energy Policy Report.⁸²

The Action Plan is intended to integrate investments, policies, and programs across several State agencies to help realize a singular vision for California's freight transport system. This integrated approach will serve to coordinate State agency priorities and timing on actions to influence freight transportation and energy infrastructure, vehicle and equipment technologies, and facility and operations efficiency, rather than the traditional and separate planning efforts for transportation, environment, and energy. The Action Plan includes recommendations on:⁸³

- A long-term 2050 Vision and Guiding Principles for California's future freight transport system
- Targets for 2030 to guide the State toward meeting the Vision

⁸⁰ California Air Resources Board. *Truck and Bus Regulation*. Available online at: <https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation>, accessed September 3, 2019.

<https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>, accessed November 19, 2018.

⁸¹ California Air Resources Board. *Phase 1 GHG*. Available online at:

<https://www.arb.ca.gov/msprog/onroad/phaselghg/phaselghg.htm>, accessed November 19, 2018.

⁸² California Department of Transportation. *The California Sustainable Freight Action Plan*. Available online at: http://dot.ca.gov/hq/tpp/offices/ogm/cs_freight_action_plan/main.html, accessed November 19, 2018.

⁸³ Ibid.

- Opportunities to leverage State freight transport system investments
- Actions to initiate over the next five years to make progress towards the Targets and the Vision
- Pilot projects to achieve on-the-ground progress in the near-term
- Additional concepts for further exploration and development, if viable

Diesel Risk Reduction Plan

In August 1998, the ARB identified particulate emissions from diesel-fueled engines (diesel PM) as toxic air contaminants, based on data linking diesel PM emissions to increased risks of lung cancer and respiratory disease. Following the identification process, the ARB was required to determine if there was a need for further control, which led to creation of the Diesel Advisory Committee to assist in the development of a risk management guidance document and risk reduction plan. In September 2000, the ARB adopted the Diesel Risk Reduction Plan, which recommends control measures to reduce the risks associated with diesel PM and achieve a goal of 75 percent diesel PM reduction by 2010 and 85 percent by 2020.⁸⁴

Specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles will be evaluated and developed. The goal of these regulations is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

California Wellness Plan (2014)

The California Department of Public Health published a statewide Wellness Plan in 2014. The Plan acknowledges that many factors contribute to an individual's health. These factors include the physical environment (housing, neighborhood, healthy food access and environment), educational attainment and employment, economic status, social support, social norms and attitudes, culture, literacy, race/ethnicity. The physical environment is also an indicator of exposure to toxins and transportation where individuals are affected on a daily basis by the air quality of their surroundings.⁸⁵

⁸⁴ CARB. 2000. *Final Diesel Risk Reduction Plan with Appendices*. Available online at: <https://ww3.arb.ca.gov/diesel/documents/rrpapp.htm>, accessed August 23, 2019.

⁸⁵ California Department of Public Health. 2014. *California Wellness Plan 2014*. February. Available online at: https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/CDPH%20Document%20Library/CDPH-CAWellnessPlan2014_FINAL%202-27-14_PDF%204.3%20MB.pdf, accessed November 27, 2018.

CARB Air Quality and Land Use Handbook

In April 2005, the California Air Resources Board published the Air Quality and Land Use Handbook as a informational and advisory guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. Reducing diesel particulate emissions is one of CARB's highest public health priorities and the focus of a comprehensive statewide control program that is reducing diesel PM emissions each year. This document highlights the potential health impacts associated with proximity to air pollution sources so planners explicitly consider this issue in planning processes. The Air Quality and Land Use Handbook includes advisories on where to site new sensitive land uses. Regarding freeways and high-traffic roads, CARB states, "[A]void siting new sensitive land uses within 500 feet of a freeway urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day."⁸⁶

3.3.3.3 Local

The SCAG region is comprised of four air basins and five air districts. The four air basins are SCAB, MDAB, SSAB, and the Ventura County portion of SCCAB. The five air districts are MDAQMD, AVAQMD, VCAPCD, SCAQMD, and ICAPCD.

MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)

The Western Mojave Desert nonattainment area (as defined in 40 CFR 81.305) was designated nonattainment for the NAAQS for ozone by USEPA effective on July 20, 2012. The MDAQMD has experienced ambient ozone concentrations in excess of the 8-hour ozone NAAQS. This plan (1) demonstrates that the MDAQMD will meet the primary required Federal ozone planning milestone, attainment of the 75 ppb 8-hour ozone NAAQS, by July 2027; (2) presents the progress the MDAQMD will make towards meeting all required ozone planning milestones; and (3) discusses the 2015 70 ppb 8-hour ozone NAAQS, preparatory to an expected non-attainment designation for the new NAAQS.⁸⁷

⁸⁶ California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available online at: <https://ww3.arb.ca.gov/ch/handbook.pdf>, accessed October 3, 2019.

⁸⁷ Mojave Desert Air Quality Management District. 2016. *MDAQMD Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)*. Available online at: https://www.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed November 27, 2018.

AVAQMD Federal 75 ppb Ozone Attainment Plan (2017)

The AVAQMD has adopted a single attainment plan for ozone. The AVAQMD Federal 8-hour Ozone Attainment Plan, adopted in March 2017, demonstrates that the AVAQMD will meet the primary required federal ozone planning milestones by June 2027, presents the progress the AVAQMD will make towards meeting all required ozone planning milestones, and discusses the 75 part per million 8-hour ozone NAAQS.⁸⁸

VCAPCD Air Quality Management Plan

The 2016 Ventura County Air Quality Management Plan (AQMP) presents Ventura County's: 1) strategy to attain the 2008 federal 8-hour ozone standard; 2) attainment demonstration for the federal 8-hour ozone standard; and, 3) reasonable further progress demonstration for the federal 8-hour ozone standard.⁸⁹

SCAQMD 2016 Air Quality Management Plan (AQMP)

The 2016 AQMP seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP includes the integrated strategies and measures needed to meet the National Ambient Air Quality Standards (NAAQS). SCAQMD recently approved on March 3, 2017 the 2016 AQMP that demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hr and annual PM_{2.5} standards.⁹⁰

ICAPCD Air Plans

At a public meeting held on May 25, 2018, CARB approved the Imperial County 2018 Annual PM_{2.5} State Implementation Plan (SIP). At a public meeting held on November 13, 2018, the Imperial County 2018 Redesignation Request and Maintenance Plan for PM₁₀. SIPs in the region are utilized to demonstrate

⁸⁸ Antelope Valley Air Quality Management District. 2017. *Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Attainment Plan)*. Available online at: http://www.scag.ca.gov/programs/Documents/AQMP/SIP/AVAQMD_2017SIP.pdf, accessed August 29, 2019.

⁸⁹ Ventura County Air Pollution Control District. 2016. *2016 Ventura County Air Quality Management Plan*. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed November 27, 2018.

⁹⁰ South Coast Air Quality Management District. 2016. *Air Quality Management Plan (AQMP)*. Available online at: <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>, accessed November 27, 2018.

that the County is in attainment of previous PM goals, as well as to set new emissions reduction guidelines, goals, and methodologies.⁹¹

Fugitive Dust Regulations: SCAQMD, AVAQMD, and MDAQMD Rule 403; VCAPCD Rule 55, Fugitive Dust; ICAPCD Rule 800, ICAPCD Rule 801

The SCAQMD, AVAQMD, and MDAQMD have adopted Rule 403, Fugitive Dust, which requires the implementation of best available fugitive dust control measures during construction and operational activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and mobile equipment traveling on paved and unpaved roads.⁹² Similarly, VCAPCD has adopted Rule 55, Fugitive Dust,⁹³ and ICAPCD has adopted Rule 800, General Requirements for Control of Fine Particulate Matter (PM₁₀),⁹⁴ and Rule 801, Construction and Earthmoving Activities, to reduce fugitive dust.⁹⁵

⁹¹ California Air Resources Board. 2018. *Imperial County Air Quality Management Plans*. Available at: <https://www.arb.ca.gov/planning/sip/planarea/imperial/imperialsip.htm>, accessed November 27, 2018.

⁹² AQMD. *Rule 403. Fugitive Dust*. Available online at: <https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4>, accessed August 23, 2019.

⁹³ VCAPCD. 2008. *Rule 55 – Fugitive Dust*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2055.pdf>, accessed August 23, 2019.

⁹⁴ ICAPCD. 2012. *Rule 800 General Requirements for Control of Fine Particulate Matter (PM-10)*. Available online at: <https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE800.pdf>, accessed August 23, 2019.

⁹⁵ ICAPCD. 2005. *Rule 801 Construction and Earthmoving Activities*. Accessed online at: <https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE801.pdf>, accessed August 23, 2019.

*SCAQMD, AVAQMD Rule 1401;*⁹⁶ *MDAQMD Rule 1320;*⁹⁸ *VCAPCD Rule 36;*⁹⁹ *ICAPCD Rule 207*¹⁰⁰ *and SCAQMD, AVAQMD Rule 1402;*^{101,102} *MDAQMD Rule 1520;*¹⁰³ *VCAPCD Rule 73;*¹⁰⁴ *ICAPCD Rule 403*¹⁰⁵

The SCAQMD has adopted two rules for TACs to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401, New Source Review of Toxic Air Contaminants, regulates new or modified facilities; and Rule 1402, Control of Toxic Air Contaminants from Existing Sources, regulates facilities that are already in operation. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities. In 2015, SCAQMD revised Rule 1401 and 1402 to include more equipment types and industry categories. Under the revised Rule 1401, no permit would be issued for new and modified equipment unless the cancer risk is less than ten in a million using Toxics Best Available Control Technology (TBACT) or less than one in a million without TBACT or if near a school. For Rule 1402, existing facilities under AB 2588 must reduce facility-wide risk if maximum individual cancer risk is greater than 25 in a million. AVAQMD, MDAQMD, VCAPCD, and ICAPCD have adopted similar rules to limit health risks from toxic air contaminants from new, modified, and existing sources.

⁹⁶ SCAQMD. 2017. *Rule 1401. New Source Review of Toxic Air Contaminants*. Accessed online at: <http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1401.pdf>, accessed August 23, 2019.

⁹⁷ AVAPCD. 2006. *Rule 1401 New Source Review for Toxic Air Contaminants*. Available online at: <https://avaqmd.ca.gov/files/8e1294bb5/AV1401.pdf>, accessed August 23, 2019.

⁹⁸ CARB. 2016. *Rule 1320 New Source Review for Toxic Air Contaminants*. Available online at: <https://ww3.arb.ca.gov/drdb/moj/curhtml/r1320.pdf>, accessed August 23, 2019.

⁹⁹ VCAPCD. 1998. *Rule 36 – New Source Review – Hazardous Air Pollutants*. Available online at: <http://www.vcapcd.org/Rulebook/Reg2/RULE%2036.pdf>, accessed August 23, 2019.

¹⁰⁰ ICAPCD. 2018. *Rule 207 New and Modified Stationary Source Review*. Available online at: <https://ww3.arb.ca.gov/drdb/imp/curhtml/r207.pdf>, accessed August 23, 2019.

¹⁰¹ SCAQMD. *Rule 1402. Control of Toxic Air Contaminants from Existing Sources*. Available online at: <http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf>, accessed August 23, 2019.

¹⁰² AVAQMD. 2002. *Rule 1402 Control of Toxic Air Contaminants from Existing Sources*. Available online at: <https://avaqmd.ca.gov/files/c9aa6c271/AV1402.pdf>, accessed August 23, 2019.

¹⁰³ MDAQMD. 2001. *Rule 1520 Control of Toxic Air Contaminants from Existing Sources*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=504>, accessed August 23, 2019.

¹⁰⁴ VCAPCD. 2008. *Rule 73 – National Emission Standards for Hazardous Air Pollutants (NESHAPS)*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2073.pdf>, accessed August 23, 2019.

¹⁰⁵ IPAPCD. 2004. *Rule 403 – General Limitations on the Discharge of Contaminants*. Available online at: <https://ww3.arb.ca.gov/drdb/imp/curhtml/r403.pdf>, accessed August 23, 2019.

3.3.4 ENVIRONMENTAL IMPACTS

3.3.4.1 Thresholds of Significance

The impacts related to air quality from the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Air Quality Thresholds for Criteria Air Pollutants

As previously discussed, the SCAG region is located within the SCAQMD, VCAPCD, MDAQMD, AVAPCD, and ICAPCD. Per *CEQA Guidelines* §15064.7 each air district is encouraged to develop and publish significance thresholds that the agency can use in the determination of the significance of environmental effects. Each of the air district's significance thresholds are discussed below.¹⁰⁶ These thresholds are generally recommended by each air district to be used to determine if further discussion of air quality impacts is needed in an environmental document. If emissions of criteria pollutants are below these levels, then air quality impacts are generally considered to be less than significant.

South Coast Air Quality Management District Thresholds

SCAQMD prepared air quality significance thresholds to compare the mass daily emissions in pounds per day (lbs/day) from construction and operation for NO_x, VOC, PM₁₀, PM_{2.5}, SO_x, CO, and Lead.

¹⁰⁶ CEQA Guidelines §15064.7.

SCAQMD's thresholds are summarized in Table 3.3-9, SCAQMD Air Quality Significance Thresholds.¹⁰⁷

Table 3.3-9
SCAQMD Air Quality Significance Thresholds

Pollutant	Construction (lbs/day)	Operation (lbs/day)
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
Sox	150	150
CO	550	550
Lead	3	3

Source:

South Coast Air Quality Management District. 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>, accessed October 2, 2019.

Ventura County Air Pollution Control District Thresholds

VCAPCD published the Ventura County Air Quality Assessment Guidelines in October 2003 that include the District's recommended significance thresholds. According to the Guidelines, operational ROG and NOx emissions have a threshold of 5 pounds per day in the Ojai Planning Area and 25 pounds per day in the remainder of Ventura County.¹⁰⁸ For all other criteria air pollutants, the District uses the ambient air quality standards as thresholds.¹⁰⁹

Mojave Desert Air Quality Management District Thresholds

MDAQMD published the *MDAQMD CEQA and Federal Conformity Guidelines* in August 2016 that includes the District's recommended air quality significance thresholds for CO, NOx, VOC, SOx, PM10, PM2.5, Hydrogen Sulfide (H₂S), and Lead in mass daily and annual emissions. The MDAQMD and

¹⁰⁷ South Coast Air Quality Management District 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>, accessed October 2, 2019.

¹⁰⁸ The City of Simi Valley, within the VCAPCD, uses a threshold of 13.7 tons/year for ROG and NOx emissions.

¹⁰⁹ Ventura County Air Pollution Control District. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: <http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>, accessed October 2, 2019.

AVAPCD have set the same annual and daily thresholds, which are summarized in **Table 3.3-10, MDAQMD and AVAPCD Air Quality Significance Thresholds.**¹¹⁰

Antelope Valley Air Pollution Control District Thresholds

AVAPCD published the *AVAPCD CEQA and Federal Conformity Guidelines* in August 2016 that includes the District's recommended air quality significance thresholds for CO, NO_x, VOC, SO_x, PM₁₀, PM_{2.5}, Hydrogen Sulfide (H₂S), and Lead in mass daily and annual emissions.¹¹¹ **Table 3.3-10** summarizes the air quality thresholds for both the AVAPCD and MDAQMD, as their annual and daily thresholds are the same.

**Table 3.3-10
MDAQMD and AVAPCD Air Quality Significance Thresholds**

Pollutant	Annual Threshold (tons)	Daily Threshold (pounds)
CO	100	548
NO _x	25	137
VOC	25	137
Sox	25	137
PM ₁₀	15	82
PM _{2.5}	12	65
H ₂ S	10	54
Lead	0.6	3

Source:

Mojave Desert Air Quality Management District. 2016. MDAQMD CEQA and Federal Conformity. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=192>, accessed October 2, 2019.

Antelope Valley Air Quality Management District. 2016. AVAQMD CEQA and Federal Conformity Guidelines. Available online at: <https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf>, accessed October 2, 2019.

Imperial County Air Pollution Control District Thresholds

ICAPCD prepared their final *CEQA Air Quality Handbook* in December 2017, which includes operational air quality thresholds for Tier I and Tier II projects.¹¹² Tier I projects do not exceed thresholds and, as a result, would not be required to prepare a Comprehensive Air Quality Analysis as emissions would be

¹¹⁰ Mojave Desert Air Quality Management District. 2016. *MDAQMD CEQA and Federal Conformity*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=192>, accessed October 2, 2019.

¹¹¹ Antelope Valley Air Pollution Control District. 2016. *AVAPCD CEQA and Federal Conformity Guidelines*. Available online at: <https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf>, accessed October 2, 2019.

¹¹² ICAPCD recommends that individual projects qualitatively address construction emissions and are required to implement the District's standard mitigation measures for construction equipment and fugitive PM_{2.5}.

less than significant. Tier II projects have the potential to exceed these thresholds and would be required to implement all standard and discretionary mitigation measures and must, at a minimum, prepare a Comprehensive Air Quality Analysis.¹¹³ **Table 3.3-11, ICAPCD Operational Air Quality Significance Thresholds**, summarizes the District’s operational thresholds.

**Table 3.3-11
ICAPCD Operational Air Quality Significance Thresholds**

Pollutant	Tier I	Tier II
NOx and ROG	Less than 137 lbs/day	137 lbs/day and greater
PM10 and SOx	Less than 150 lbs/day	150 lbs/day and greater
CO and PM2.5	Less than 550 lbs/day	550lbs/day and greater
Level of Significance	Less than Significant	Significant Impact

Source:

Imperial County Air Pollution Control District. 2017. *CEQA Air Quality Handbook*. Available online at: <https://www.co.imperial.ca.us/AirPollution/PlanningDocs/CEQAHandbk.pdf>, accessed October 2, 2019.

Air Quality Threshold for Toxic Air Contaminants

TACs are hazardous air pollutants that may reasonably cause cancer, development effects, or other serious or irreversible acute or chronic health effects in humans. In the analysis below, DPM, a type of TAC, is evaluated to determine the cancer risk posed to sensitive groups in the SCAG region. The SCAQMD,¹¹⁴ VCAPCD,¹¹⁵ MDAQMD,¹¹⁶ and AVAPCD¹¹⁷ have all recommended a significance threshold of 10 in one million.¹¹⁸ As a result, if an individual’s probability of contracting cancer over

¹¹³ Imperial County Air Pollution Control District. 2017. *CEQA Air Quality Handbook*. Available online at: <https://www.co.imperial.ca.us/AirPollution/PlanningDocs/CEQAHandbk.pdf>, accessed October 2, 2019.

¹¹⁴ South Coast Air Quality Management District 2019. South Coast AQMD Air Quality Significance Thresholds. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>, accessed October 2, 2019.

¹¹⁵ Ventura County Air Pollution Control District. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: <http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>, accessed October 2, 2019.

¹¹⁶ Mojave Desert Air Quality Management District. 2016. *MDAQMD CEQA and Federal Conformity*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=192>, accessed October 2, 2019.

¹¹⁷ Antelope Valley Air Pollution Control District. 2016. *AVAPCD CEQA and Federal Conformity Guidelines*. Available online at: <https://avaqmd.ca.gov/files/e5b34d385/AV+CEQA+Guides+2016.pdf>, accessed October 2, 2019.

¹¹⁸ IPAPCD does not have a quantified cancer risk threshold, instead individual projects that meet Tier II would be required to prepare a health risk assessment which should be prepared in consultation of APAPCD staff.

their lifetime **increases** by 10 or more chances in one million **as a result of a project's emissions**, the project would have a significant impact.¹¹⁹

3.3.4.2 Methodology

This section describes the air quality in the SCAG region, discusses the potential impacts of Connect SoCal on air quality, identifies mitigation measures for potential impacts, and evaluates residual impacts in accordance with Appendix G of the *CEQA Guidelines*. Air quality within the SCAG region was evaluated at a programmatic level of detail, in relation to the Air Quality Management Plans for the five air quality districts and the general plans of the six counties and 191 cities within the SCAG region, a review of published and unpublished literature germane to the SCAG region, as well as a review of SCAG's 2016 RTP/SCS PEIR.¹²⁰ This analysis focuses on air pollution from on-road motor vehicles in two perspectives: daily emissions and pollutant concentrations. The analysis is based upon air quality modeling, performed by SCAG, using EMFAC2014.¹²¹ Air quality modeling that produces criteria pollutant emissions for the SCAG region and by county is based on SCAG's transportation modeling and network built for the existing conditions and the Plan.

The methodology for determining the significance of air quality impacts compares existing conditions to the expected future air quality with the Plan, as required in CEQA Section 15126.2(a). The criteria above were applied to compare current conditions to the 2045 Plan conditions.

Analysis of the potential air quality impacts of the Plan was conducted based on SCAG's Regional Travel Demand Model, evaluation of relevant AQMPs/SIPs, and a mobile-source health risk analysis (HRA) (**Appendix 3.3**) to determine whether or not there will be a significant impact. The analysis of cancer risk was evaluated using the United States Environmental Protection Agency (U.S. EPA) AERMOD dispersion model and the Hot Spots Analysis and Reporting Program Version 2 (HARP2) Risk Assessment Standalone Tool (RAST) model, consistent with the guidance provided by the California Office of Environmental Health Hazard Assessment (OEHHA) for Human Health Risk Assessment (HRA) based on DPM emission estimates from CARB's EMFAC2014 model. EMFAC2014 was developed

¹¹⁹ See e.g., SCAQMD Air Quality Significance Thresholds, <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>, accessed November 11, 2019.

¹²⁰ Southern California Association of Governments. 2016. *Final Program Environmental Report for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*. Available online at: <http://scagtrpccs.net/Pages/FINAL2016PEIR.aspx>, accessed March 25, 2019.

¹²¹ EMFAC 2014 model was the most recent, EPA-approved version at the time SCAG released the Conformity Assumptions for this analysis (EMFAC2017 had not been approved). Additionally, EMFAC2017 had not been approved at the time of releasing the NOP. On August 15, 2019, EPA approved EMFAC2017 for use; however, EPA provided a two-year grace period in which SCAG is not required to use EMFAC2017. The grace period runs through August 16, 2021.

in order to estimate emissions from mobile sources and includes County-specific data, such as fleet mix in order to estimate criteria air pollutants. See **Appendix 3.3, Health Risk Assessment Technical Report**, for more detail.

In *California Building Industry Association (CBIA) vs. Bay Area Air Quality Management District (BAAQMD)*, the California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.¹²² Therefore, emissions from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions.¹²³ Since Connect SoCal includes transportation projects, including freeway improvements, that could occur within 500 feet of sensitive receptors (thereby exacerbating an existing condition), this section analyses the risk posed from existing freeways on sensitive receptors.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.3.4.3 Impacts and Mitigation Measures

Impact AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

Less than Significant Impact.

¹²² See *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369; see also *Cal. Building Industry Assn. v. Bay Area Air Quality Management District* (2016) 2 Cal.App.5th 1067.

¹²³ Note that as discussed in **Section 3.15.3, Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code §§ 21159.21(f), (h), 21159.22(a), (b)(3), 21159.23 (a)(2)(A), 21159.24(a)(1), (3), and 21155.1(a)(4), (6).

Connect SoCal would result in a less than significant impact to air quality related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in the SCAG region because the projected long-term emissions are in alignment with the local SIPs/AQMPs as demonstrated in the transportation conformity analysis, found in the Conformity Technical Report for the Plan.¹²⁴ The emissions resulting from the Plan are within the applicable emissions budgets as stated in the SIPs/AQMPs for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years.

As described in the Regulatory Framework, when a region is in nonattainment for any of the six criteria air pollutants relative to the NAAQs, the federal CAA requires states to develop SIPs to achieve the federal standard. The AQMPs are required as part of the SIP. Within the SCAG region, the 8-hour federal ozone standard is designated as nonattainment for all six counties. San Bernardino, Riverside, Orange, Los Angeles, and Imperial Counties are all designated as nonattainment for PM_{2.5}. Additionally, San Bernardino, Riverside, and Imperial Counties are designated as nonattainment for PM₁₀. As a result, all the SIPs in the SCAG region focus on reducing ozone emissions and may also focus on particulate matter pollution. The following air quality plans are applicable to Connect SoCal: 2016 SCAQMD Air Quality Management Plan (AQMP), AVAQMD Federal 75 ppb Ozone Attainment Plan (2017), MDAQMD Federal 75 ppb Ozone Attainment Plan (2017), 2016 Ventura County Air Quality Management Plan, and Imperial County 2018 Annual PM_{2.5} State Implementation Plan.

The goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures, including transportation control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent over time, achieving the standards becomes a moving target that the air quality districts, and air-related plans must continue to chase. At this current snapshot of time (2019), the Plan would not conflict with the existing air-related plans since it will align with feasible Transportation Control Measures (TCMs). SCAG coordinates with air districts in the region to ensure that air quality management plans (and air pollution control plans) are consistent and comprehensively address air pollution from all sources (as appropriate) in the SCAG region. For example, the 2016 SCAQMD AQMP was developed in alignment with the 2016 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of January 17, 2017.¹²⁵

¹²⁴ Southern California Association of Governments. 2019. *Transportation Conformity Analysis Draft Technical Report*.

¹²⁵ SCAQMD. 2015. *2016 AQMP Updates Coordination with SCAG & CARB*. Available online at: http://www.aqmd.gov/docs/default-source/Agendas/STMPR-Advisory-Group/stmpr_073015_5.pdf, accessed October 29, 2019.

Connect SoCal includes new transportation projects and refined land use strategies compared to the 2016 RTP/SCS. With respect to achieving emission reductions, Connect SoCal would further reduce emissions compared to the 2019 RTP/SCS as it has a greater emphasis on compact development, additional transportation projects and strategies including more integrated strategies for active transportation, additional investments for transit and passenger rail, and a greater emphasis improving the public health and ensuring the quality of life (as discussed in **Chapter 2.0, Project Description**). This is evident by the Plan's transportation project types that allocate funding and planning efforts on trail access, regional greenway network, regional and local bikeway network, and pedestrian improvements by using a "complete street" approach; transit (rail, bus) improvements and new facilities; rideshare/vanpool programs; high-occupancy vehicle (HOV) lanes; traffic calming and signal improvements; and streetscape/landscape projects. Implementation of transportation projects (See **Appendix 2.0, Plan Project List**) would reduce emissions in both mobile and stationary sources by increasing density and reducing VMT per capita (See **Section 3.8, Greenhouse Gas Emissions** for additional discussion on VMT per capita reduction). Additionally, land use strategies proposed in the Plan seek to balance the region's strategic transportation investments and land use choices and are coordinated with the committed and projected transportation investments in the region that emphasize system preservation and enhancement, active transportation, and land use integration. These efforts are in alignment with the attainment plans and air quality management plans' goals to reduce emissions of pollutants in nonattainment areas. Therefore, the Plan is expected to have a less than significant impact as it would not conflict with or obstruct implementation of applicable air quality plans, and the consideration of mitigation measures is not warranted.

The determination of significance under CEQA is based on the comparison to existing conditions, as required. The following comparison to the No Project scenario is provided here for informational purposes to understand the effects of the Plan as compared to a scenario where the Plan is not implemented. Under a No Project scenario, investments in VMT reduction projects and infill and compact land use strategies would not occur to the same degree as the Plan. This scenario would result in increased emissions of ozone precursors and particulate matter and likely would not meet Conformity or the AQMPs target emission reductions.

Impact AQ-2 Potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Significant and Unavoidable – Mitigation Required.

At the regional level, criteria pollutant emissions would be mostly reduced compared to existing conditions and the region would meet air quality standards. In 2045, when compared to existing

conditions, on-road mobile-source PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. On-road mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Within the SCAB (which is likely indicative of the region as a whole), SCAQMD indicates that total pollutant emissions are being reduced through at least 2031, except for small increases in SO_x and PM_{2.5}.

Construction Emissions

Over the lifetime of the Plan, various transportation and development projects would be constructed. These construction activities would result in ongoing emissions of air pollutants including ROG, NO_x, PM₁₀, PM_{2.5}, and fugitive dust. Emissions associated with each individual project are generally short-term and are limited to the project construction phase. The sources associated with these emissions include construction equipment, employee and vendor vehicles, demolition, grading and other ground-disturbing activities, application of paint and other coatings, paving, and others. Typically, larger projects are associated with larger emissions during construction.

While construction of each individual project is temporary and limited in nature, emissions from individual construction projects have the potential to exceed localized and daily thresholds. As stated above, the five air districts in the SCAG region have set mass daily or annual construction and/or operational emissions thresholds. Furthermore, all the air districts in the SCAG region have relevant fugitive dust rules that apply to construction activities. While these thresholds are to be applied to individual construction projects, the air districts do not provide a threshold for use with regional planning documents such as the RTP/SCS. However, SCAQMD does account for estimated construction emissions from off-road construction equipment within the 2016 AQMP. As demonstrated in the 2016 AQMP, and discussed below, total regional emissions of criteria pollutants including from construction sources would generally decline through at least 2031 with the exception of small increases in PM_{2.5} and SO_x. In addition, at the individual project level there is the potential for local exceedances.

Operational Emissions

As noted in **Chapter 2.0, Project Description**, as part of the process for developing Connect SoCal, SCAG is responsible for ensuring that mobile source on-road emissions meet NAAQS and CAAQS for the SCAG region, as well as SB 375 GHG targets. The air quality management and air pollution control districts are responsible for addressing all other sources of air pollution in the SCAG region (stationary sources, construction equipment, airplanes, trains and ships) and ensuring that standards are met.

On-road mobile-source emissions evaluated in Connect SoCal by SCAG include passenger vehicles, light-duty trucks, medium trucks and heavy-duty trucks. CARB identifies emissions standards for these

sources. Off-road vehicles generally refer to construction equipment. In the AQMP, off-road vehicles refer to locomotives, ocean going vessels, off-highway recreational vehicles, cargo handling equipment, farm equipment, and aircraft. CARB is responsible for implementing the AQMP with respect to emissions standards for construction equipment sold within the state. The U.S. EPA implements the AQMP with respect to regulating airplanes, trains, and ships emissions.

As mentioned above, air quality management and air pollution control districts are responsible for addressing air pollution from stationary sources, construction equipment, airplanes, trains, and ships within the SCAG region. These air quality and air pollution control districts include SCAQMD, MDAQMD, VCAPCD, AVAPCD, and ICAPCD. The SCAQMD includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.¹²⁶ Therefore, SCAQMD's 2016 AQMP's analysis of the emissions resulting from stationary sources, construction equipment, airplanes, trains, and ships is discussed below as a proxy for these emissions throughout the entire SCAG region.

In addition to on-road mobile sources provided by SCAG, SCAQMD's 2016 AQMP provides emission estimates for stationary, and off-road mobile sources from 2019 to 2031, see **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**. Stationary sources include both point and area sources. Point stationary sources include permitted facilities, such as power plants and refineries, with one or more emission sources. Area stationary sources include small emission sources, such as residential water heaters, architectural coatings, consumer products, and smaller permitted sources. Off-road mobile sources include construction equipment, locomotives, ocean-going vessels, aircraft, cargo handling equipment, and farm equipment. SCAQMD does not forecast out to 2045, but the general trend of most pollutants decreasing is not expected to change.

As shown in **Table 3.3-12**, in the SCAB region total VOC, NO_x, and CO emissions are anticipated to decrease between 2019 to 2031. Comparing emission estimates from 2019 to 2031, SO_x, and PM_{2.5} emissions are expected to increase by 1 ton/day each. Increases in SO_x and PM_{2.5} are expected to occur due to increases in population and activity that will outpace the emissions reductions expected to occur from newer and cleaner equipment and vehicles. VOC and NO_x emissions are expected to decrease due to existing regulations, such as on- and off-road equipment regulations and vehicle emissions standards.¹²⁷

¹²⁶ South Coast Air Quality Management District. Map of Jurisdiction. Available online at: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf>, accessed October 2, 2019.

¹²⁷ SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed November 6, 2019.

Table 3.3-12
2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031

Year	Tons/Day						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH ₃	VOC	NOx
2019	376	353	1,447	17	64	74	398	347
2022	362	290	1,325	17	64	73	383	287
2023	359	257	1,298	17	64	72	379	255
2025	353	241	1,247	17	64	72	372	239
2031	345	214	1,188	18	65	73	362	214

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 2, 2019.

The 2016 AQMP identifies the top ten source categories for VOC, NOx, SOx, and PM2.5 for the years 2012, 2019, 2022, 2023, 2025, and 2031. Review of these data demonstrates that in 2019, passenger cars, light-duty trucks, and medium duty trucks are anticipated to be the top ten contributors of VOC emissions in the SCAG region. By 2031, VOC emissions from on-road mobile sources are anticipated to substantially decrease due to more stringent on-road standards and only passenger cars and light-duty trucks are anticipated to be within the top ten contributors to VOC emissions. Throughout the entire AQMP planning year, heavy-duty trucks, off-road construction equipment, and ships and commercial boats will be the top contributors of NOx emissions, although the emission rates will decline over the years. Regarding SOx emissions, ships and commercial boats and aircrafts are the highest contributors in the SCAB region and are anticipated to fluctuate over the AQMP planning years. Finally, heavy-duty diesel trucks, light duty trucks, and passenger cars are the only mobile-sources in the top ten polluters for PM2.5 emissions in the SCAB region. From 2019 to 2031, passenger car and light duty trucks PM2.5 emissions remain constant while the heavy-duty PM2.5 emissions continuously decrease.¹²⁸

Other air basins in the SCAG region include the South Central Coast Air Basin (SCCAB), Salton Sea Air Basin (SSAB), and the Mojave Desert Air Basin (MDAB). As demonstrated in **Table 3.3-4**, similar to SCAB, all three air basins are in nonattainment for ozone and PM10. The SCCAB and portions are the SSAB are also in nonattainment for PM2.5. Each of these air basins has an AQMP to plan the basin's

¹²⁸ SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed October 29, 2019.

attainment status pursuant to the federal CAA Amendment. P to address nonattainment of ozone in the southwestern desert portion of the basin.¹²⁹

On-Road Mobile Source Emissions

Under Connect SoCal, mobile-source air emissions were estimated for 2045 with the Plan and compared to the existing conditions (2019). The calculated emissions were compiled for ROG, NO_x, CO, PM₁₀, PM_{2.5}, and SO_x for each county in the SCAG region. The only pollutants expected to increase with implementation of Connect SoCal are PM₁₀ annual emissions in Imperial, Orange, Riverside, and San Bernardino Counties as well as PM_{2.5} in Imperial, Riverside, and San Bernardino Counties. Annual PM₁₀ and PM_{2.5} emissions in the remaining counties, and annual SO_x emissions in every county will decrease or not change from the existing emissions to 2045. ROG, NO_x, and CO emissions in every county are expected to decrease with implementation of the Plan (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emission by County – Existing Conditions [2019] vs Plan [2045]**).

As shown in **Table 3.3-13**, the Plan will mostly reduce emissions from existing conditions (2019). In part, the reduction is due to vehicle emissions reductions required by federal and states rules and policies (see 3.3.2 Regulatory Framework). In 2045, when compared to existing conditions, on-road mobile-source PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing vehicle miles travelled. Mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Particulate matter is generated by tires on roadways and therefore, unlike other pollutants that can be regulated through tailpipe emission controls, particulate matter is difficult to address without simply reducing VMT.

The Plan includes transportation projects and strategies aimed at reducing the VMT across the region. One result of these investments is a decline in per capita VMT compared to existing conditions (although total VMT would increase). As further discussed in **Section 3.17, Transportation, Traffic and Safety**, total VMT is expected to increase between 2019 and 2045 in all counties, however per capita VMT would increase only in Imperial County. At the regional level, on-road mobile source emissions would generally decrease (with the exception of small increases in PM₁₀ and PM_{2.5} in some counties) and per capita VMT would decrease. However, it is possible that individual projects, particularly development projects that generate many vehicle trips (i.e., high VMT) would result in localized air quality impacts.

¹²⁹ MDAQMD. 2017. *Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Plan)*. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed November 5, 2019.

**Table 3.3-13
On-Road Mobile-Source Criteria Air Pollutant Emissions by County –
Existing Condition (2019) vs Plan (2045)**

County		(Tons/day)								
		ROG	ROG	NOx	NOx	NOx	CO	PM10	PM2.5	SOx
		Summer	Annual	Summer	Annual	Winter	Winter	Annual	Annual	Annual
Imperial	Existing	3	3	6	7	7	19	0.5	0.2	0.0
	Plan	2	2	4	4	4	17	0.7	0.3	0.1
	Difference	-1	-1	-2	-2	-3	-3	0.3	0.1	0.0
Los Angeles	Existing	52	50	88	95	93	397	14.2	6.3	1.1
	Plan	22	21	33	35	34	145	14.2	5.8	0.8
	Difference	-30	-29	-55	-60	-59	-252	0.0	-0.5	-0.3
Orange	Existing	15	15	22	23	23	111	4.7	2.1	0.3
	Plan	7	7	7	8	7	45	4.7	1.9	0.2
	Difference	-8	-8	-14	-16	-15	-66	0.1	-0.1	-0.1
Riverside	Existing	14	12	32	34	34	87	3.9	1.7	0.3
	Plan	7	6	12	13	13	39	4.7	1.9	0.3
	Difference	-7	-6	-20	-21	-21	-48	0.9	0.2	0.0
San Bernardino	Existing	16	14	38	40	39	99	4.1	1.8	0.3
	Plan	7	6	18	19	18	42	5.2	2.1	0.3
	Difference	-8	-7	-20	-21	-21	-57	1.2	0.3	0.0
Ventura	Existing	4	4	6	7	7	30	1.1	0.5	0.1
	Plan	1	1	2	2	2	10	1.1	0.5	0.1
	Difference	-3	-3	-4	-5	-5	-20	0.0	0.0	0.0

As shown in **Table 3.17-15, Population and VMT (2019 and 2045)**, VMT per capita under the Plan would be less than existing conditions. As shown in **Table 3.17-14, Total VMT 2019 and 2045**, total VMT would be less under the Plan than the No Project. Therefore, emissions will be less with the Plan as compared to No Project.

Off-Road Mobile Sources

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, mobile-source emissions from airplane, train, and ship transportation sources have decreased VOC, NOx, CO, and PM2.5 emissions in the SCAB region and will continue to decrease to 2031,¹³⁰ see **Table 3.3-14, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB**.

¹³⁰ SCAG acknowledges that AQMD, nor the other air districts in the region, has not identified emissions beyond 2031. However, due to the overall downward trajectory and the substantial state requirements, it is assumed that emissions will continue to decline through 2045.

Table 3.3-14
AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB

Year	Tons/Day					Summer Planning		
	VOC	NO _x	CO	SO _x	PM _{2.5}	NH ₃	VOC	NO _x
2019	79	124	697	5	6	0	98	133
2022	74	113	715	5	6	0	92	120
2023	73	110	721	6	6	0	90	117
2025	71	104	731	6	5	0	87	110
2031	66	94	766	7	5	0	81	100

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 2, 2019.

As shown in **Table 3.3-14**, emissions from off-road mobile VOC, NO_x, CO, and PM_{2.5} emissions within the SCAB region are anticipated to decrease. SO_x emissions from off-road mobile are anticipated to increase and NH₃ emissions will remain constant (near zero level).

Stationary Sources

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, stationary-source emissions from NO_x will decrease in the SCAB region by approximately 17%. All other pollutants from stationary sources are anticipated to increase by 2031, see **Table 3.3-15, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB**.

As shown in **Table 3.3-15**, stationary source emissions from all criteria air pollutants, except NO_x, are anticipated to increase when 2019 conditions are compared to 2031.

Table 3.3-15
AQMP Forecast of Annual Average Stationary Source Emissions in SCAB

Year	Tons/Day						Summer Planning	
	VOC	NOx	CO	SOx	PM2.5	NH ₃	VOC	NOx
2019	214	62	111	10	47	60	213	59
2022	220	53	112	10	48	60	220	50
2023	222	52	112	10	48	60	220	50
2025	224	52	112	10	49	60	223	49
2031	231	51	113	10	50	61	231	50
2019 vs. 2031	7.9%	-17.7%	1.8%	0.00%	6.3%	1.7%	8.5%	-15.3%

Source: South Coast Air Quality Management District. 2017. 2016 Air Quality Management Plan. Available online at: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15, accessed October 2, 2019.

Wildfire

SCAQMD accounts for most sources of pollutants in their AQMP. However, in recent years wildfires have added substantial amounts of pollutants to the SCAB that are unaccounted for in the AQMP. According to the U.S. EPA's Exceptional Events Rule, wildfires are not to be considered for NAAQS attainment status.¹³¹

However, wildfire emissions are likely to result in significant air quality and health impacts in the future. According to SCAG's Public Health Draft Technical Report, wildfires are going to become more prevalent as climate change leads to drier, hotter conditions in Southern California. The SCAQMD and MDAQMD include information regarding active wildfires, resulting air quality impacts, and the health risks of wildfires on their websites.^{132,133}

Summary

Total emissions in the SCAB region (as indicated in 2016 AQMP) and likely across the SCAG region are expected to generally decline through at least 2031 except for small increases in PM 2.5 and SOx (Table

¹³¹ Federal Register. *Treatment of Data Influenced by Exceptional Events*. Available online at: https://www.epa.gov/sites/production/files/2016-09/documents/exceptional_events_rule_revisions_2060-as02_final.pdf, accessed November 6, 2019.

¹³² SCAQMD. *Wildfire Smoke & Ash Health & Safety Tips*. Available online at: <http://www.aqmd.gov/home/air-quality/wildfire-health-info-smoke-tips>, accessed November 6, 2019.

¹³³ MDAQMD. *Wildfires*. Available online at: <http://mdaqmd.ca.gov/air-quality/wildfires>, accessed November 6, 2019.

3.3-12). SCAG is responsible for assessing on-road mobile source emissions through 2045. In general, in 2045, when compared to existing conditions, on-road mobile-source PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic (see **Table 3.3-13**).

While the SCAG region may see an increase in PM_{2.5}, PM₁₀ and SO_x emissions, the SCAQMD, AVAPCD, ICAPCD, and MDAQMD have not established regional thresholds to determine significance. The air districts within the SCAG region have only established project-level thresholds (see **Table 3.3-9**, **Table 3.3-10**, and **Table 3.3-11**). Therefore, individual projects must compare anticipated project emissions to the thresholds for the air district within which they are located in order to determine significance on the project-level. Because mobile source emissions of PM₁₀ and PM_{2.5} will increase (PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties), largely as a result of increased total VMT, and SO_x would increase in the region at least through 2031, the Plan could contribute to an air quality violation. Further, there is the potential for individual projects to exceed local standards during construction and/or operation for several pollutants. Therefore, this impact is considered to be significant.

Health Implications

In accordance with the *Sierra Club v. County of Fresno* (i.e., *Friant Ranch*) decision, when air quality impacts are found to be significant, the health implications of the significant emissions should be disclosed. Modeling and analyzing health consequences requires a substantial amount of data. A detailed health risk assessment of on-road mobile-source emissions was undertaken for the Plan (see discussion of Impact AQ-4 below).

The main health concerns associated with PM₁₀ and PM_{2.5} include worsening of symptoms in sensitive patients with respiratory disease and excess seasonal declines in pulmonary function, especially in children. This can include an increase in the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is much smaller and it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility. **Table 3.3-6, Peak Criteria Pollutants Readings for the SCAG Region Air Basins**, above indicates that the applicable PM₁₀ and

PM2.5 State standards were exceeded multiple times between 2016 and 2018. The Plan's increase in PM10 and PM2.5 emissions could worsen the health concerns listed above or result in Air Quality Index values that are unhealthy for sensitive groups and other populations. On unhealthy days, persons are recommended to avoid both prolonged and heavy-exertion outdoor activities.¹³⁴

As noted earlier, NO_x and ROG are ozone precursors and the SCAG region is currently in nonattainment for PM2.5, PM10, and ozone under NAAQS and CAAQS. The main health concern regarding exposure to ground-level ozone is its effects on the respiratory system, particularly on lung function. Several factors influence these health impacts, including the concentration of ground-level ozone in the atmosphere, the duration of exposure, the average volume of air breathed per minute, the length of intervals between short-term exposures; and the sensitivity of the person to the exposure.^{135,136}

The SCAQMD, in its amicus brief to the California Supreme Court in *Friant Ranch*, stated that from a scientific standpoint, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire air basin, and provided evidence from its 2012 AQMP that showed that if the daily emissions of NO_x and ROG were reduced in amounts of 432 and 187 tons per day respectively, the ozone concentrations at SCAQMD's monitoring site would go down by only 9 parts per billion as compared to ozone readings without these ROG and NO_x reductions.¹³⁷ For all these reasons, it is difficult to estimate the change in ozone concentrations that would result from the decrease in ozone precursors (ROG and NO_x). **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**, demonstrates there will be overall decreases in ROG and NO_x from mobile and stationary sources in the SCAB region. Therefore, it can be assumed that the total amount of ozone would also decrease, however the exact amount cannot be accurately quantified.

Both ozone and particulate matter are known to have negative public health impacts especially for sensitive populations, like children, the elderly, and those with respiratory or cardiovascular health problems. Therefore, the potential for Connect SoCal to adversely affect public health was evaluated using cancer risk from diesel particulate matter as a proxy for respiratory health (see **Appendix 3.3**)

¹³⁴ U.S. Environmental Protection Agency, Air Quality Index, A Guide to Air Quality and Your Health, February 2014, www.epa.gov/airnow/aqi_brochure_02_14.pdf, accessed October 31, 2019.

¹³⁵ The World Bank Group, Pollution Prevention and Abatement Handbook 1998: Toward Cleaner Production, pp. 227–230, 1999, <http://documents.worldbank.org/curated/en/758631468314701365/pdf/multi0page.pdf>, accessed February 11, 2019.

¹³⁶ U.S. EPA, Air Quality Guide for Ozone, March 2015b, <https://airnow.gov/index.cfm?action=pubs.aqiguideozone>, accessed February 11, 2019.

¹³⁷ SCAQMD. 2015. *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and [Proposed] Brief of Amicus Curiae*. April. <https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf>, accessed April 9, 2019.

Similarly, the analysis acknowledges applicable California legislation and initiatives to improve public health, particularly respiratory health in light of *Research Results on Land Use, Transportation, and Community Design*.¹³⁸

- Residents in walkable neighborhoods are more likely to meet physical activity guidelines. Public transit users are more likely to meet Surgeon General recommendations for physical activity. Greater health benefits can be achieved by increasing the amount (duration, frequency, or intensity) of physical activity.

Connect SoCal plans to increase active transportation in communities, as these projects provide opportunities for physical activity, which has been shown to improve chronic disease rates.¹³⁹ Consistent with the environmental justice analysis in Connect SoCal, this PEIR considers the potential benefits and impacts on sensitive receptors including low-income and minority populations located in the vicinity of transportation facilities (e.g., the potential to increase or decrease diesel particulate emissions).

ROG and NOx emissions contribute to the development of ozone; therefore, reductions of ROG and NOx emissions would also lead to a reduction in ozone. Excess NOx emissions can also lead to increases in physician and emergency room visits as well as hospitalization and more school days missed by school-aged children living in the air basin. Implementation of Connect SoCal, when compared to existing conditions, would decrease on-road mobile-source ROG and NOx emissions. (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**). Additionally, within the SCAB area NOx emissions are anticipated to decrease through at least 2031 from off-road vehicle and stationary sources (**Table 3.3-14, AQMP Forecast of Annual Average Off Road Mobile Emissions in SCAB**, and **Table 3.3-15 AQMP, Forecast of Annual Average Stationary Source Emissions in SCAB**). Through at least 2031, ROG emissions are expected to decrease from off-road vehicle emissions (**Table 3.3-14, AQMP Forecast of Annual Average Off Road Mobile Emissions in SCAB**) but will increase from stationary sources (**Table 3.3-15, AQMP Forecast of Annual Average Stationary Source Emissions in SCAB**). Overall, the total ROG and NOx emissions from on-road, off-road vehicle, and stationary sources are expected to decrease in the SCAB area through at least 2031 (**Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**). SCAB was re-designated as in attainment of federal standards for CO in June 2017 and the last exceedance of state standards within the region for CO was in 2015. CO presents a significant health risk as it can interfere with oxygen transport within the body. Compared to existing conditions, mobile-source CO

¹³⁸ Active Living Research. 2011. *Research Results on Land Use, Transportation, and Community Design*. Available online at: <http://activelivingresearch.org/land-use-transportation-and-community-design-research-summary-slides>, accessed March 25, 2019.

¹³⁹ Southern California Association of Governments. 2019. *Active Transportation Technical Report*.

emissions in the future with implementation of Connect SoCal would decrease between now and 2045 despite increasing traffic, as a result of stringent emissions controls. (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition [2019] vs Plan [2045]**).

In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ can also yellow plant leaves and erode iron and steel. Compared to existing conditions, mobile-source SO_x emissions would not change substantially despite increasing traffic (**Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**). Most of the counties within the SCAG region are emitting negligible amounts of on-road mobile-source SO_x; however, the AQMP does indicate that SO_x (primarily from ship-related emissions) are expected to increase slightly at least through 2031 (see **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**).¹⁴⁰

The 2016 AQMP undertook a detailed evaluation of health effects associated with the 2016 AQMP (which considers all sources of pollutants). That evaluation is contained within Appendix I of the Final 2016 AQMP (and is hereby incorporated by reference). It concludes the following:

A large body of scientific evidence shows that the adverse impacts of air pollution on human and animal health are clear. A considerable number of population-based and laboratory studies have established a link between air pollution and increased morbidity and, in some instances, premature mortality. Importantly, the health effects of air pollution extend beyond respiratory effects, and there is substantial evidence that air pollution (including particulate matter and ozone) exposures cause cardiovascular morbidity and mortality. Some air pollutants, such as diesel PM, lead, and several other air toxics, have been linked to increased cancer risk. Health studies have also identified populations who may be more susceptible to the adverse effects of air pollution, such as children, older adults, low SES communities, people with certain pre-existing health conditions, and people with certain genetic factors. Understanding the impacts of air pollution on these more susceptible populations can help inform policies that better protect public health, for example, in setting standards for criteria air pollutants, and in the development of methods to evaluate air toxics health risks. Continued research on the effects of specific PM constituents and ultrafine particles will be important in furthering the understanding of how these pollutants affect human health.

¹⁴⁰ Los Angeles County is estimated to emit approximately 1-ton SO_x annually under existing conditions and will continue to emit 1-ton annually in 2040 with implementation of the Plan.

As the scientific methods for the study of air pollution health effects have progressed over the past decades, adverse effects have been shown to occur at lower levels of exposure. For some pollutants, no clear thresholds for effects have been demonstrated. The new findings have, in turn, led to the revision and lowering of National Ambient Air Quality Standards (NAAQS) which, in the judgment of the Administrator of the U.S. EPA, are necessary to protect public health. Chapter 8 of the draft 2016 AQMP provides an overview of the extensive, multi-year, public process involved in setting federal air quality standards. Assessments of the scientific evidence from health studies is an important part of the process, and has helped inform revisions to the federal air pollution standards. Figures [included in the AQMP] are meant to convey some of the historical context to recent revisions to the NAAQS for ozone and for particulate matter, with regard to key developments in the understanding of the health effects of these pollutants.

Mitigation Measures

SCAG Mitigation Measures

- SMM-AQ-1:** SCAG shall develop the Southern California Disadvantaged Communities Planning Initiative which would provide funds to selected applicants to develop a low-cost, high-impact model which leverages SCAG’s staff, data, and outreach resources to deliver context-sensitive plans in high-need, low-resourced active transportation infrastructure and frameworks. As part of the initiative, the model will be operationalized through the development of plans in six communities and refined to provide a sustainable resource for SCAG staff partner with local agencies to develop local active transportation plans.
- SMM-AQ-2:** SCAG shall continue its commitment to analyze public health outcomes as part of Connect SoCal. As part of the public health analysis for the Plan, SCAG shall continue to analyze the Plan’s impacts on air quality through its Public Health Working group and continue to support policy change at the city and country level through education programs.
- SMM-AQ-3:** SCAG shall continue to conduct air quality-related technical analyses on the region, specifically in vulnerable areas that are typically environmental justice areas. For example, SCAG staff conducted technical analysis of emissions impacts on populations within 500 feet of freeways and highly travelled corridors in the Connect SoCal Environmental Justice Appendix. SCAG staff shall also continue to work with districts and relevant stakeholders to be informed of any updates new and/or changes to air quality issue areas through various forums like the Environmental Justice Working Group.

Project Level Mitigation Measures

PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Minimize land disturbance.
- b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- c) Cover trucks when hauling dirt.
- d) Stabilize the surface of dirt piles if not removed immediately.
- e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- f) Minimize unnecessary vehicular and machinery activities.
- g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
- j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
- k) Ensure that all construction equipment is properly tuned and maintained.
- l) Minimize idling time to 5 minutes—saves fuel and reduces emissions.

- m) Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- n) Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- o) Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
- p) As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
- q) Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of anticipated regional increases in certain criteria pollutant emissions and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to violating air quality standards or contributing substantially to an existing or projected air quality violation could be significant and unavoidable even with implementation of mitigation.

Impact AQ-3 **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.**

Significant and Unavoidable Impact – Mitigation Required.

The analysis of the Plan is essentially a cumulative analysis of air quality impacts resulting from the growth within the SCAG region. At the regional level, projects that are considered cumulative to and similar to the Plan are other regional-scale projects, e.g., other RTPs/SCSs for adjacent jurisdictions and AQMPs. The air quality analysis focuses on emissions associated with mobile sources as that is the primary responsibility of the RTP; the AQMP addresses stationary sources as well as airplane, trains, ship and construction emissions. The AQMP's emissions estimates from mobile-sources, including on-road as well as airplane, trains, and ships and stationary sources are summarized in **Impact AQ-2**.

In 2045, when compared to existing conditions, on-road mobile-source PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. Mobile-source particulate matter emissions would remain the same or decrease from existing conditions for all other pollutants (see **Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**).

The state of California is made up of 18 MPO's. SCAG's jurisdiction makes up the majority of the Southern California region and is surrounded by three other MPO's including San Diego Association of Government (SANDAG) to the south, Kern Council of Governments (KCOG) north of Ventura and Los Angeles Counties, and Santa Barbara County Association of Governments (SBCAG) north of Ventura County.^{141,142} Each of these MPO's prepared a RTP/SCS to develop transportation and land use strategies within their region. SANDAG's 2050 RTP/SCS EIR concluded that on-road vehicle emissions would decrease for CO, ROG, and NO_x pollutants from 2010 to 2050, with minimal increases of 0.23 and 0.15 tons/year for PM₁₀ and PM_{2.5}, respectively. The San Diego Air Pollution Control District (SDAPCD) maintains air plans for ozone and CO for the San Diego Air Basin (SDAB).¹⁴³ Therefore, the growth in the San Diego region under the SANDAG's plan would not increase emissions for which the area is in non-attainment.

¹⁴¹ The area north of San Bernardino County is a non-MPO, rural area.

¹⁴² Institute for Local Government. *California's 18 Metropolitan Planning Organizations*. Available online at: <https://www.ca-ilg.org/post/californias-18-metropolitan-planning-organizations>, accessed October 29, 2019.

¹⁴³ San Diego Association of Governments. 2011. *SANDAG 2050 RTP/SCS EIR, 4.3 Air Quality*. Available online at: <https://www.sandag.org/uploads/2050RTP/EIR43.pdf>, accessed October 29, 2019.

KCOG's 2018 RTP PEIR similarly concluded that by 2042, implementation of the RTP would reduce ROG, NO_x, and CO emissions, however PM₁₀ and PM_{2.5} emissions would increase. The KCOG's PEIR determines that these increases in particulate matter are likely due to the increases in VMT which would increase roadway, brake, and tire particulate matter dust. The KCOG region includes the Eastern Kern Air Pollution Control District (EKAPCD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is in non-attainment for federal and state ozone and PM_{2.5} as well as state PM₁₀ standards. The Eastern Kern Air Pollution Control District is in a moderate nonattainment area for the national, state 8-Hour, and state 1-Hour ozone standard. Growth in the KCOG region would result in decreases in ozone precursors but result in slight increases in particulate matter for which SJVAPCD is in non-attainment for.¹⁴⁴

Finally, the SBCAG 2040 RTP/SCS's (called Fast Forward 2040) Final Supplemental EIR concluded that daily ROC, NO_x, and PM₁₀ emissions would decrease within the SBCAG region from 2014 to 2040, therefore resulting in a less than significant impact. Santa Barbara County is in non-attainment for state 8-hour ozone and state PM₁₀ standards, therefore, SBCAG would reduce pollutants for which the area is in non-attainment.¹⁴⁵

Pursuant to the U.S. EPA's Transportation Conformity Regulations, the regional emissions tests are met if plan emissions are within the applicable emissions budgets for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years and, if no emissions budgets have been established, if Plan emissions are less than the no-build emissions or the base-year emissions. The emissions budgets that were established in the AQMPs/SIPs in the SCAG region and have been approved by the U.S. EPA function as the applicable emission budgets for the conformity analysis for the respective nonattainment and maintenance areas. Federal conformity regulations also require the regional emissions analysis to be based on the Latest Planning Assumptions that include the latest vehicle data (fleet, age, activity) and latest socioeconomic growth forecast. A conformity determination must be made for each nonattainment and maintenance area in the region. In addition to the regional emissions analysis, the Plan is also required to pass (1) the timely implementation of the Transportation Control Measures (TCM) test, (2) the Financial Constraint test, and (3) the Interagency Consultation and Public Involvement test. The regional emissions analysis serves as a reasonable analysis of cumulative air

¹⁴⁴ Kern Council of Governments. 2018. *2018 Regional Transportation Plan Program Environmental Impact Report*. Available online at: <https://www.kerncog.org/wp-content/uploads/2018/05/2018-Public-Draft-PEIR.pdf>, accessed October 29, 2019.

¹⁴⁵ Santa Barbara County Association of Governments. 2017. *Fast Forward 2040 Regional Transportation Plan & Sustainable Communities Strategy Final Supplemental EIR*. Available online at: http://www.sbcag.org/uploads/2/4/5/4/24540302/ff2040_seir.pdf, accessed December 2, 2019.

quality impacts of the Plan. Connect SoCal meets the regional emissions tests for each nonattainment and maintenance area and for all milestone, attainment, and planning horizon years.

The Plan will meet the targets and emissions reduction milestones for on-road mobile-source emissions set in each of the AQMPs/SIPs within the SCAG region and are in compliance with federal conformity requirements. Additionally, implementation of the Plan will reduce on-road mobile criteria air pollutants and thus reduce the overall health effects to the surrounding community. Total emissions within the SCAB region, which makes up a large portion of the SCAG area, are expected to decrease as well through 2031 according to the 2016 AQMP with the exception of increases in PM_{2.5} and SO_x. In addition, the Plan would decrease all criteria air pollutant emissions, except for small increases in PM_{2.5} in Imperial, Riverside, and San Bernardino Counties and PM₁₀ in Imperial, Orange, Riverside, and San Bernardino Counties. Reductions in ROG, NO_x, and CO are consistent with the RTP/SCS for the SANDAG, KCOG, and SBCAG planning areas. The KCOG and SANDAG region are also anticipated to result in increases in particulate matter in the future. However, because emissions would increase in some counties (PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties), largely as a result of increased total VMT, and SO_x would increase in the region at least through 2031, the SCAG region would add to emissions of neighboring MPO's. Moreover, as discussed in AQ-2, individual project emissions may result in significant construction and/or operational emissions as compared to thresholds of significance identified by each air district. Therefore, the Plan could contribute to cumulative impacts from adjacent MPO's and therefore this impact is considered significant, and mitigation is required.

See discussion above in **Impact AQ-2** regarding health effects.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AQ-1**, **SMM AQ-2**, **SMM**, and **SMM AQ-3**.

Project Level Mitigation Measures

See **PMM-AQ-1**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures

consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the anticipated regional increase in certain criteria pollutant emissions and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment could be significant and unavoidable even with implementation of mitigation.

Impact AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

Significant and Unavoidable Impact – Mitigation Required.

Construction-Related Emissions

Over the lifetime of the Plan numerous transportation projects and land use development projects would be implemented. The construction of these projects could expose sensitive receptors to substantial pollutant concentrations. The greatest potential for exposure to substantial pollutant concentrations and TAC emissions during construction of both transportation projects and anticipated development, would be DPM emissions associated with heavy-duty equipment operations and truck traffic during construction activities. According to the SCAQMD methodology, health effects from carcinogenic air toxics are described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk assessment methodology. SCAQMD, VCAPCD, MDAQMD, and AVAPCD has stated that the incremental cancer risk should not exceed an incremental increase of 10 excess cancer cases per million, and the chronic and acute non-carcinogenic risks should not exceed a calculated Hazard Index (HI) value of 1.0.

The California Office of Environmental Health Hazard Assessment (OEHHA) published a guidance manual in 2015 to assist the preparation of health risk assessments (HRA) for carcinogenic and non-carcinogenic exposures to air toxics in accordance with the Air Toxics Hot Spots Information and Assessment Act.¹⁴⁶ The 2015 OEHHA HRA guidelines provide methodologies for assessing various types of environmental exposures to toxic contaminants, including inhalation exposures. The 2015 OEHHA HRA guidance relied upon a comprehensive review of the most up-to-date scientific literature to formulate the recommended exposure estimation methodologies. The OEHHA guidance acknowledges that children are especially susceptible to the effects of toxic air contaminant exposure, and incorporated age sensitivity factors (ASFs) and age-specific daily breathing rates (DBRs) to account for

¹⁴⁶ OEHHA, *Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

the differences in sensitivity to carcinogens during early life exposure. OEHHA recommends a default ASF of 10 for the age range between the third trimester of pregnancy through two years, and an ASF of three for ages two through 15 years.

As a conservative measure to characterize maximum potential exposures of sensitive receptors to carcinogenic risks, residential exposures are assumed to begin in the third trimester and exposures of children at schools is anticipated to begin at the lowest educational grade level. The OEHHA guidance provides recommended DBR values that are specific to the age of the receptor and the type of activity in which the receptor would be engaged during exposure, which are evaluated on a case-by-case basis. Air districts in the SCAG region (including SCAQMD) have not adopted guidelines to implement the 2015 OEHHA HRA guidelines for construction and indicated it is currently considering how to implement the guidelines. Only one air district -- the San Joaquin Valley Air Pollution Control District -- appears to have adopted guidelines to implement the 2015 OEHHA HRA guidelines. BAAQMD is undergoing a process to implement guidelines as well.

The specific size and location of future construction activity within the SCAG region is not known, and therefore many variables related to characterizing potential exposures to air toxics during construction activities could not be determined, such as proximity to the emissions sources and duration of exposure. Connect SoCal's Project List (See **Appendix 2.0**) includes transportation projects through 2045, however a construction health risk analysis would be speculative given the lack of a construction location and construction activities. However, it is reasonable to assume that some level of construction activity would occur adjacent to sensitive receptors (e.g., residences and schools). The significant construction emissions identified above, could result in adverse health effects to sensitive receptors. As such, it is likely that intense construction activities (e.g., from development projects that involve a high volume of haul trucks) would exceed the health risk significance thresholds due to equipment and truck exhaust emissions. This is considered a significant impact related to substantial pollutant concentrations during construction activities.

On-Road Mobile-Source Emissions

Mobile source (heavy-duty truck) diesel emissions, specifically DPM, are the primary source of health concern in most urban areas in the SCAG region. Mobile DPM emissions in the SCAG region are anticipated to decrease as compared to existing conditions. Additionally, from 2019 to 2031, passenger and light daily truck PM_{2.5} is expected to remain constant, while heavy-duty PM_{2.5} emissions

continuously decrease.¹⁴⁷ As a result, existing sensitive receptors would be exposed to lower concentrations of TACs in the future. Sensitive receptors include residences, schools, medical facilities, senior centers, nursing homes, and similar uses. CARB recommends that local governments avoid locating new sensitive land uses within 500 feet of freeways as discussed in the Regulatory Framework above (see **Section 3.3.1**). Consistent with CARB recommendations, it is anticipated that local governments would limit growth within 500 feet of freeways and/or address potential health concerns through appropriate design requirements. For example, in the City of Los Angeles, all new mechanically ventilated buildings located within 1,000 feet of freeways are required to install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 13.¹⁴⁸ In addition, properties within 1,000 feet of freeways are subject to an advisory notice regarding adverse health impacts resulting from chronic exposure to vehicle exhaust and particulate matter. The notice indicates that all applicants filing for a discretionary action within 1,000 feet of a freeway must adhere to design guidelines regarding freeway proximity, including a) avoiding locating sensitive uses such as schools, day-care facilities and senior centers; b) locate occupied open space away from freeway sources; c) prioritize non-habitable spaces (e.g. parking) nearest the freeway; and d) screen the site with substantial vegetation and or wall/barrier.¹⁴⁹ The City of Los Angeles also has numerous general plan policies related to air emissions and health. The City has also announced the City of Los Angeles Green New Deal, which includes goals that would reduce on-road mobile-source emissions (see **Section 3.6, Energy**).

Nonetheless, new sensitive receptors are likely to be developed within 500 feet of freeways and lanes may be added to freeways that result in widenings that bring freeway lanes in closer proximity to existing sensitive receptors. To assess the public health risks associated with emissions from major roadways, an HRA was prepared for Connect SoCal and is included in **Appendix 3.3**. An HRA evaluating the cancer risk from the transportation emissions in the SCAG region provides estimated cancer risk to the most impacted sensitive groups from a large sector of pollutants (transportation). An evaluation of the total emissions to sensitive receptors is not feasible because detailed data regarding all other sources of emissions is not available for 2045; see the discussion of the 2016 AQMP health effects appendix in **Impact AQ-2**.

According to the SCAQMD's most recent 2016 AQMP, which summarized the MATES IV study, the SCAQMD region has a population weighted cancer risk of 897 per million (2012-20136) for both

¹⁴⁷ SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed October 29, 2019.

¹⁴⁸ See Los Angeles Municipal Code § 99.04.504.6.

¹⁴⁹ City of Los Angeles Department of City Planning. 2018. *Zoning Information File ZI No. 2427*. Available online at: <http://zimas.lacity.org/documents/zoneinfo/zi2427.pdf>, accessed October 3, 2019.

stationary and mobile sources.¹⁵⁰ It should be noted that the MATES IV study evaluated the risk from June 2012 through June 2013 and the results of the MATES IV study resulted in a 70% decrease in diesel emissions and a 50% decrease in cancer risk compared to the MATES III study that evaluated the risk from 2004 to 2006.¹⁵¹ According to the MATES-IV study, the highest concentration of DPM was simulated to occur at the Ports of Los Angeles and Long Beach.¹⁵² Since the MATES-IV study monitoring (2012-2013), California has mandated measures to reduce diesel exhaust at the ports. For example, in 2014 California requires that 50% of fleet calls must use shore power instead of running diesel-fueled auxiliary on-board engines while at berth. Shore power is estimated to cut air pollution from ships at berth by 95 percent. The percentage of fleet calls using shore power increases to 70% in 2017 and 80% in 2020.¹⁵³ Therefore, it can be assumed that the MATES V study, which is currently underway, will also find a significant decrease in the weighted cancer risk since it is based on 2018 monitoring data.¹⁵⁴ According to CARB, DPM emissions account for approximately 70% of the known cancer risk related to air toxics in California. Major sources of diesel emissions include ships, trains, and heavy-duty trucks, especially for residents living near ports, railyards, and heavily traveled roadways.¹⁵⁵

The Connect SoCal HRA evaluates potential carcinogenic health risks from emissions of DPM from motor vehicles on major freeways and transportation corridors. CARB has previously evaluated the risks posed to residential receptors near the Ports of Los Angeles and Long Beach and railyards across the SCAG region, including the four railyards in the City of Commerce, the Union Pacific Railyard in the City of Industry, Union Pacific Los Angeles Transportation Center (LATC) Railyard, and Union Pacific Mira Loma Railyard. According to CARB, port activities (including ship hoteling, cargo handling, and on-port trucking) would result in a cancer risk of over 10 in a million to approximately 1.98 million people, with

¹⁵⁰ SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed October 31, 2019.

¹⁵¹ Ibid.

¹⁵² SCAQMD. 2015. *MATES-IV Final Report*. Available online at: <https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>, accessed November 6, 2019.

¹⁵³ Port of Long Beach. *Shore Power*. Available online at: <http://www.polb.com/environment/air/shorepower.asp>, accessed November 15, 2019.

¹⁵⁴ SCAQMD. 2017. *MATES – Overview of goals, previous studies, and timeline*. Available online at: <http://www.aqmd.gov/docs/default-source/default-document-library/presentation-on-item-2---overview-of-goals-previous-studies.pdf?sfvrsn=0>, accessed November 6, 2019.

¹⁵⁵ CARB. *Overview: Diesel Exhaust & Health*. Available online at: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>, accessed November 5, 2019.

the nearest receptors exceeding 500 in one million cancer risks.¹⁵⁶ The Commerce railyards (Union Pacific Commerce Railyard, BNSF Hobart Railyard, BNSF Mechanical Sheila Railyard, and BNSF Commerce Eastern Railyard) will expose approximately 1.29 million people to a cancer risk greater than 10 in a million over a 76,000-acre area.¹⁵⁷ Additionally the City of Industry, LATC, and Mira Loma Railyards are estimated to expose approximately 91,000 residents over 8,300-acres in Industry, 147,000 residents over 9,400-acres in LA, and 7,900 people over 3,000-acres in Mira Loma, respectively, to risks equal or greater to 10 in a million.^{158,159,160} The Connect SoCal HRA evaluates a remaining major source of DPM emissions, highly traveled roadways.

DPM emissions have been associated with acute and chronic health effects, such as the worsening of heart and lung diseases. Elevated levels of ambient particulate matter have also been identified as one of many aggravating factors for childhood asthma. At levels above the federal and state ambient air quality standards, PM10 and PM2.5 emissions are a health concern. PM2.5 is believed to have greater negative health effects because the smaller particles can penetrate to the deepest parts of the lungs. Diesel exhaust from heavy duty trucks emits a mixture of gaseous and solid air pollutants, the solid pollutants make up DPM. Approximately 90% of DPM emissions are less than 1 μm , thus the majority of DPM emissions are a subset of PM2.5 and are small enough to be inhaled into the lungs.¹⁶¹

The HRA quantitatively analyzed the potential to expose people to increased cancer and other health risks, based on using the potential for increased cancer risk from diesel particulate matter from heavy-duty diesel trucks traveling on major freeways. Cancer risk is used as a proxy for general respiratory health. Only motor vehicle emissions on freeways were quantitatively evaluated because emissions from

¹⁵⁶ CARB. 2006. *Diesel Particulate Matter Exposure Assessment Study for the Port of Los Angeles and Long Beach*. Available online at: https://ww3.arb.ca.gov/ports/marinevevss/documents/portstudy0406.pdf?_ga=2.166328956.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

¹⁵⁷ CARB 2007. *Health Risk Assessment for the Four Commerce Railyards*. Available online at: https://ww3.arb.ca.gov/railyard/hra/4com_hra.pdf?_ga=2.93549535.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

¹⁵⁸ CARB. 2008. *Health Risk Assessment for the Union Pacific Railroad City of Industry Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_coi_hra.pdf?_ga=2.56341481.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

¹⁵⁹ CARB. 2007. *Health Risk Assessment for the Union Pacific Railroad Los Angeles Transportation Center Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_latc_hra.pdf?_ga=2.64093421.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

¹⁶⁰ CARB. 2007. *Health Risk Assessment for the Union Pacific Railroad Mira Loma Auto Facility Railyard*. Available online at: https://ww3.arb.ca.gov/railyard/hra/up_miraloma_hra.pdf?_ga=2.97678301.333186014.1572896497-1229197864.1566229390, accessed November 5, 2019.

¹⁶¹ CARB. *Overview: Diesel Exhaust & Health*. Available online at: <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health>, accessed October 3, 2019.

other transportation corridors are much less than emissions on major freeways. Additionally, stationary sources were not evaluated as there was insufficient data available to model the health risk posed from these sources.

The HRA shows substantial reductions in DPM and associated health risks (see discussion below). In the future under Plan (and No Plan) conditions, as a result of stringent emission controls, DPM and health risk would be reduced substantially as compared to existing conditions.

Implementation of the Plan would result in new transportation projects being developed near existing sensitive receptors or locating new receptors near transportation projects. Sensitive receptors would continue to be exposed to DPM as a result of the Plan. However, as shown in **Table 3.3-16**, cancer risk would decrease considerably in the future, and local jurisdictions are requiring more robust air filtration and other ways of reducing exposure to existing sources of pollutants in particular in proximity to freeways (see above discussion regarding the City of Los Angeles).

The declines in cancer risk across all freeway segments is the result of continued decreases in per-vehicle mile fleet emissions projected to occur due to continued emission control technology improvements in new vehicles.

The methodology for selection of the HRA segments is discussed above (based on vehicle volumes). Emissions of DPM from each segment were calculated using the SCAG Transportation Demand Model VMT data for 2019 and projections for 2045. The potential cancer risk for residences were evaluated for a 30-year exposure, 9-year exposure and 70-year exposure periods, assuming continuous exposure over those time periods (i.e. 24 hours a day, 7 days a week). SCAG VMT data was provided for heavy duty vehicles and light/medium duty vehicles. The most current version of CARB mobile source emissions model (EMFAC2014) was used to obtain emissions factors of PM10 in diesel-fueled vehicles, which were assumed equal to DPM emission factors.¹⁶²

The potential health risk of emissions from a representative 1-mile long portion of each freeway segment were evaluated with CARB-approved AERMOD dispersion model (Version 18081) and meteorological data obtained from South Coast, Mojave Desert, Imperial, and Ventura Air District monitoring sites. The calculated DPM concentration was then used to calculate the potential carcinogenic risk using the most current OEHHA 2015 guidelines.

¹⁶² EMFAC 2014 model was the most recent, EPA-approved version at the time SCAG released the Conformity Assumptions for this analysis (i.e., EMFAC2017 had not yet been approved). Additionally, EMFAC2017 had not yet been approved at the time of releasing the NOP. On August 15, 2019, EPA approved EMFAC2017 for use; however, EPA provided a two-year grace period in which SACOG is not required to use EMFAC2017. The grace period runs through August 16, 2021.

To analyze potential cancer risk with respect to DPM, the threshold of 10 in one million identified above is considered. A 30-year exposure cancer risk was used in the analysis below per OEHHA guidance. As stated above, a 9-year and 70-year health risk analysis was also conducted. OEHHA recommends that a cancer risk for a range of residency times be calculated to coincide with the U.S. EPA's estimates of the average (9 years), high-end estimates (30-years) of residence time, and a lifetime residency (70 years). According to OEHHA, the 30-year exposure duration should be used to determine the risk characterization and recommends a 9-year and 70-year cancer risk be included as a supplemental analysis.¹⁶³ The 9-year and 70-year cancer risk estimates are provided in **Appendix 3.3, Health Risk Assessment Technical Report**.

As shown on **Table 3.3-16, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk** (also see **Appendix 3.3**), the maximum 30-year exposure to residential cancer risk for each transportation segment is significantly reduced when compared to existing conditions. While the daily VMT would rise in every county under the Plan (even though per capita VMT is expected to decrease), see **Table 3.8-11 in Section 3.8, Greenhouse Gases**, the maximum potential cancer risk would be on average 87 percent less than existing conditions. This is due to the dramatic reductions in emissions that are expected to result from federal and state regulations that require reduced tail pipe emissions from on-road heavy-duty diesel trucks (HDDT). It is important to note that despite the reduction in cancer risk compared to existing conditions, the Plan would still result in exposing sensitive receptors to substantial pollutant concentrations, however such emissions would be substantially less than under existing conditions. As shown on **Table 3.3-16** emissions under the Plan, on all segments, would decrease substantially. Due to the significant reduction in DPM emissions and associated health risk, overall risk is reduced and therefore, impacts are considered less than significant.

163 Office of Health Hazard Assessment. 2015. Air Toxics Hot Spots Program. Available online at: <https://oehha.ca.gov/media/downloads/crnrr/2015guidancemanual.pdf>, accessed October 1, 2019.

Table 3.3-16
Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	Existing Conditions	2045 No Project	2045 Connect SoCal
1	IMP I-8	Imperial / El Centro	24.5	14.2	14.5
2	IMP SR-78	Imperial / Westmoreland	64.6	37.1	18.9
3	LA I-110	Los Angeles / Carson	69.4	24.8	23.5
4	LA I-710	Los Angeles / Compton	63.8	31.2	30.9
5	LA SR-60 DB	Los Angeles / Diamond Bar	106.6	31.1	29.7
6	LA SR-60 SEM	Los Angeles / South El Monte	64.4	18.4	16.9
7	ORA I-5	Orange / Orange	24.8	5.36	5.49
8	ORA I-405	Orange / Seal Beach	43.3	12.2	11.8
9	RIV I-10	Riverside / Banning	10.5	4.97	4.83
10	RIV I-15	Riverside / Temecula	16.7	9.65	9.52
11	RIV SR-91	Riverside / Corona	22.6	8.4	8.41
12	SB I-15 ONT	San Bernardino / Ontario	40.4	10.4	10.5
13	SB I-15 VIC	San Bernardino / Victorville	109.9	40.6	41.3
14	SB SR-60	San Bernardino / Ontario	71.9	19.1	18.8
15	VEN US-101 SB	Ventura / San Buenaventura	21.2	4.93	4.85
16	VEN US-101 TO	Ventura / Thousand Oaks	102.5	19.6	21.9

*Note: Cancer Risk Threshold is an increase of 10 per 1 million from the Plan.
Source: Health Risk Assessment (Appendix 3.3).*

As demonstrated in **Table 3.3-16**, six of the transportation segments under the No Project scenario would have lower cancer risk than under the Plan. This is likely due to changes in the land use growth pattern and the ratio of light/medium vehicle versus heavy-duty truck travel expected under the Plan versus a No Plan. For example, Segment 12 is in Ontario on the I-15, under the Plan the segment would experience a decrease in VMT from light and medium duty cars of over 100,000 as compared to the No Project, however heavy-duty truck traffic is expected to increase by approximately 7,400 daily trips under the Plan as compared to the No Project scenario. Since the majority of DPM emissions and the associated health risk results from heavy-duty vehicles, the health risk would be greater in this segment under the Plan. The health risk under the Plan is anticipated to be less in most segments as compared to the No Project scenario. The total health risk in analyzed segments under the Plan (268.7 in one million) would

be less than the No Project (290.71 in one million). Additionally, the total health (268.7 in one million) risk under the Plan would be less than under existing conditions (857.1 in one million).

In addition to mobile-source emissions, multiple social, economic, and lifestyle factors could contribute to the detriment of the region's public health. Built upon the public health emphasis of previous Plans, Connect SoCal emphasizes public health.

As indicated in the Connect SoCal Public Health Technical Report, poor air quality can also impact non-cancer related health problems including asthma. Additionally, climate change can lead to increased wildfires and smoke, which in turn degrades the air quality in the region. Increases in PM_{2.5} from wildfires leads to increased hospital visits and mortality.¹⁶⁴ This risk persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by winds. SCAG has evaluated social detriments including the community context, availability of health care, neighborhood and surrounding built environment, education, and economic health to see how these factors shape public health. With nearly half of U.S. adults living with a chronic disease, SCAG recognizes improving public health is vital to the community. The Surgeon General promotes increasing physical activity as one strategy to improve public health.¹⁶⁵

SCAG's responsibility as it relates to air quality is to focus on mobile source emissions. Air districts, such as the SCAQMD are responsible for overseeing air quality in the region for stationary sources. As stated above, the SCAQMD prepares an AQMP in order to ensure the area reaches attainment for ozone and particulate matter. According to the SCAQMD, 25% of the SCAB area's ozone-forming air pollutant comes from stationary sources and 75% comes from mobile-source emissions.¹⁶⁶ Therefore, while air districts have more authority in reducing stationary source pollution by creating rules and thresholds within their jurisdictions as well as have more authority in project-level analysis, air quality management districts must work closely with MPO's, such as SCAG, in order to ensure reductions in mobile-source air emissions. For example, SCAQMD's most recent 2016 AQMP includes a discussion of the health risk in the SCAB region as a result of both stationary and mobile source emissions based on the MATES IV model, which included on-road mobile source information obtained from SCAG.¹⁶⁷ As indicated above, the weighted cancer risk from all sources from 2012-2013 is approximately 897 in one million, which is

¹⁶⁴ Southern California Association of Governments. 2019. *Public Health Draft Technical Report*.

¹⁶⁵ U.S. Department of Health & Hazard Services. 2015. *Executive Summary from Step It Up!: Surgeon General's Call to Action*. Available online at: <https://www.hhs.gov/surgeongeneral/reports-and-publications/physical-activity-nutrition/walking-executive-summary/index.html>, accessed September 3, 2019.

¹⁶⁶ SCAQMD. *About*. Available online at: <http://www.aqmd.gov/nav/about>, accessed November 5, 2019.

¹⁶⁷ SCAQMD. 2015. *Mates IV*. Available online at: <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>, accessed November 5, 2019.

likely lower in 2019.¹⁶⁸ The MATES IV study goes on to say that the areas of highest risk include those near the ports, Central Los Angeles, and along transportation corridors.¹⁶⁹

While implementation of the Plan would increase total VMT from 2019 to 2045 (see **Table 3.8-11, Population and VMT (2019 and 2045)**), there is a growing support for increasing active transportation throughout the communities in the region. These changes can only be met if there is also a change in the built environment that enable people to walk safely in their communities. Proposed land use strategies and transportation investments, such as provision of additional investments in active transportation networks including first mile/last mile improvements, Safe Routes to School projects, and regional bikeways infrastructure are expected to increase the number of short trips, reduce per capita VMT and improve physical activity outcomes. The statewide Affordable Housing and Sustainable Communities (AHSC) program, as noted in the Plan, would improve air quality and reduce greenhouse gas emissions by funding housing and transportation improvements that support infill and compact development thereby reducing VMT.¹⁷⁰ Land use strategies within Connect SoCal also focuses development in HQTAs.

Connect SoCal includes regional strategies that would contribute to improving public health by reducing VMT (as well as encouraging increased healthy activities). As discussed in **Section 2.0, Project Description**, these strategies include, increased transportation investments in active transportation opportunities and facilities, transit and passenger rail use, and land use strategies that create more opportunities for walking and biking or other physics activities. The Plan projects total VMT would increase from 2019, but VMT per capita would decrease.

Summary

Connect SoCal would provide strategies to improve public health and develop walkable and transit friendly communities. The cancer risk adjacent to freeways would be significantly reduced when compared to existing conditions. The Plan would not exacerbate the health risk compared to existing conditions and therefore the impact of on-road emissions is less than significant.

As discussed above, construction activity would occur adjacent to sensitive receptors. The significant construction emissions identified in AQ-2, could result in an adverse health effects to sensitive receptors.

¹⁶⁸ SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at:

<http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed October 31, 2019.

¹⁶⁹ SCAQMD. 2015. *MATES-IV Final Report*. Available online at: <https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7>, accessed November 6, 2019.

¹⁷⁰ Southern California Association of Governments. 2019. *Connect SoCal*.

As such, it is likely that extended intense construction activities (e.g., from development projects that involve a high volume of haul trucks) would exceed the health risk significance thresholds due to equipment and truck exhaust emissions. This is considered a significant impact related to substantial pollutant concentrations during construction activities. Mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM AQ-1, SMM AQ-2, SMM**, and **SMM AQ-3**.

Project Level Mitigation Measures

See **PMM-AQ-1**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the anticipated construction emissions, the regional nature of the analysis and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to air emission impacts on sensitive receptors during construction could be significant and unavoidable even with implementation of mitigation.

Impact AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Less than Significant Impact.

Connect SoCal would result in a less than significant impact to air quality in relation to exposing a substantial number of people to objectionable odors. Odor sources within the SCAG region, such as wastewater treatment facilities, landfills, and agricultural operations, are controlled by county and city odor ordinances and air district rules that prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. These ordinances and rules are enforced by the air pollution control districts and local law enforcements. For example, SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings*, limit the amount of

volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. SCAQMD also provides rules to establish odor management practices and requirements from solid waste transfer stations, material recovery facilities, and rendering facilities in Rule 410, *Odors from Transfer Stations and Material Recovery Facilities*,¹⁷¹ and Rule 415, *Odors from Rendering Facilities*.¹⁷² Additionally, SCAQMD and MDAQMD's Rule 402;^{173, 174} VCAPCD's Rule 51;¹⁷⁵ and IPAPCD's Rule 407¹⁷⁶ *Nuisance* establishes that no person shall discharge any source of air contaminants that may cause harm or nuisance to the public. In order to hold any facility accountable for nuisance rules, the air quality management districts allow the public to report any air quality problems within the district including odor complaints.¹⁷⁷ As such, the Plan would be required to adhere to these rules and implementation of the Plan would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Construction

Construction of transportation projects and anticipated development under the Plan have the potential to cause an increase in construction activities in the region. Activities associated with the operation of construction equipment, diesel, the application of asphalt, the application of architectural coatings and other interior and exterior finished, and roofing may produce discernible odors typical of most construction sites. As stated above, SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings*, limit the amount of volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. Although these odors could be a source of nuisance to adjacent uses, odors from construction at any individual site

¹⁷¹ South Coast Air Quality Management District. 2006. *Rule 410. Odors from Transfer Stations and Material Recovery Facilities*. Available online at: <https://ww3.arb.ca.gov/drdb/sc/curhtml/r410.pdf>, accessed October 30, 2019.

¹⁷² South Coast Air Quality Management District. 2017. *Rule 415. Odors from Rendering Facilities*. Available online at: <https://ww3.arb.ca.gov/drdb/sc/curhtml/r415.pdf>, accessed October 30, 2019.

¹⁷³ South Coast Air Quality Management District. 1976. *Rule 402. Nuisance*. Available online at: <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4>, accessed October 30, 2019.

¹⁷⁴ MDAQMD. 1977. *Rule 402 Nuisance*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=290>, accessed November 15, 2019.

¹⁷⁵ VCAPCD. 2004. *Rule 51- Nuisance*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2051.pdf>, accessed November 15, 2019.

¹⁷⁶ ICAPCD. 1999. *Rule 407 Nuisances*. Available online at: <https://ww3.arb.ca.gov/drdb/imp/curhtml/r407.pdf>, accessed November 15, 2019.

¹⁷⁷ South Coast Air Quality Management District. 2019. *Odor Complaints and Nuisance Violations*. Available online at: <http://www.aqmd.gov/home/news-events/community-investigations/sunshine-canyon-landfill/odor-complaints>, accessed October 30, 2019.

is temporary and intermittent in nature. Construction-related emissions also decrease with distance from individual project sites and quickly dissipate.

In accordance with federal and state regulations, diesel emissions from heavy duty trucks are projected to decrease with the Plan (see the HRA in **Appendix 3.3**), and construction activities associated with the Plan would adhere to CARB's guidelines regarding proximity to sensitive receptors. As such, construction resulting from the Plan would result in less than significant odor impacts.

Land Use Development Projects

The development projects anticipated to occur under the Plan would have the potential to result in nuisance odors. There are certain industries and activities that tend to result in odor complaints. According to the SCAQMD *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. Any and all of these uses/activities could occur somewhere in the SCAG region under the Plan.

However, development projects would be required to comply with applicable odor regulations, such as SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings* and SCAQMD and MDAQMD Rule 402; VPAPCD Rule 51; and ICAPCD Rule 407 *Nuisance*. The air quality management districts use similar *Nuisance* rules which state:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.^{178, 179, 180, 181}

Therefore, most development projects would be required to comply with rules prohibiting nuisance to the public, including odors. The level of exposure and number of receptors affected from potential odor can only be determined through project-level analysis once facility designs of individual projects are

¹⁷⁸ South Coast Air Quality Management District. 1976. *Rule 402. Nuisance*. Available online at: <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4>, accessed December 2, 2019.

¹⁷⁹ MDAQMD. 1977. *Rule 402 Nuisance*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=290>, accessed December 2, 2019.

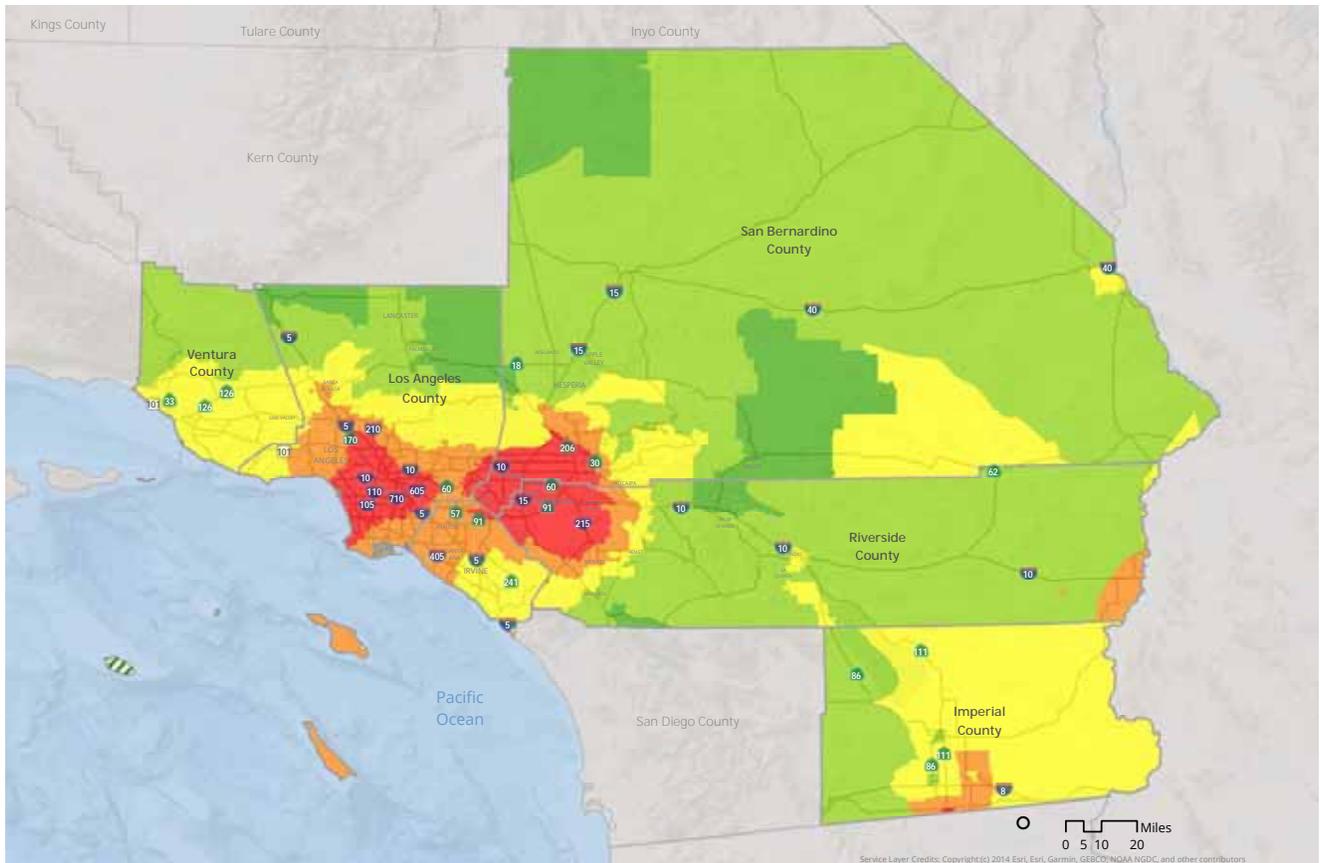
¹⁸⁰ VCAPCD. 2004. *Rule 51- Nuisance*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2051.pdf>, accessed December 2, 2019.

¹⁸¹ ICAPCD. 1999. *Rule 407 Nuisances*. Available online at: <https://ww3.arb.ca.gov/drdb/imp/curhtml/r407.pdf>, accessed December 2, 2019.

available. Therefore, odor impacts related to development would be analyzed at the individual project level. However, since development projects are required to comply with applicable odor regulations, land use development would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Transportation Improvements

Connect SoCal includes the implementation of transportation projects (see **Appendix 2.0, Project List**) with the aim of reducing overall emissions in both mobile and stationary sources by increasing density and reducing VMT. Some transportation projects that involve roadway expansions or realignments could result in the transfer of vehicle emissions and/or could result in odor emissions sources being located closer to receptors. For example, Connect SoCal includes a transportation project to widen Harbor Boulevard in Orange County by one lane in each direction from Warner Avenue to 17th Street. Extending the street will bring vehicles and the associated exhaust emissions and odors closer to existing receptors along the roadway. In addition, some projects (e.g., rail stations) could result in localized traffic congestion that could incrementally add to odor concentrations. However, the SCAQMD does not indicate that transportation projects are associated with odor complaints. Similar to development projects, transportation projects would be required to comply with applicable odor regulations, such as the SCAQMD and MDAQMD's Rule 402; VCAPCD's Rule 51; and ICAPCD's Rule 407 *Nuisance*. Transportation projects would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.



Annual Mean Concentration of PM2.5 (Average of Quarterly Means, $\mu\text{g}/\text{m}^3$), Over Three Years (2012 to 2014)

No Data
 4.5 - 6.0
 6.1 - 8.0
 8.1 - 10.0
 10.1 - 12.0
 12.1 - 14.6

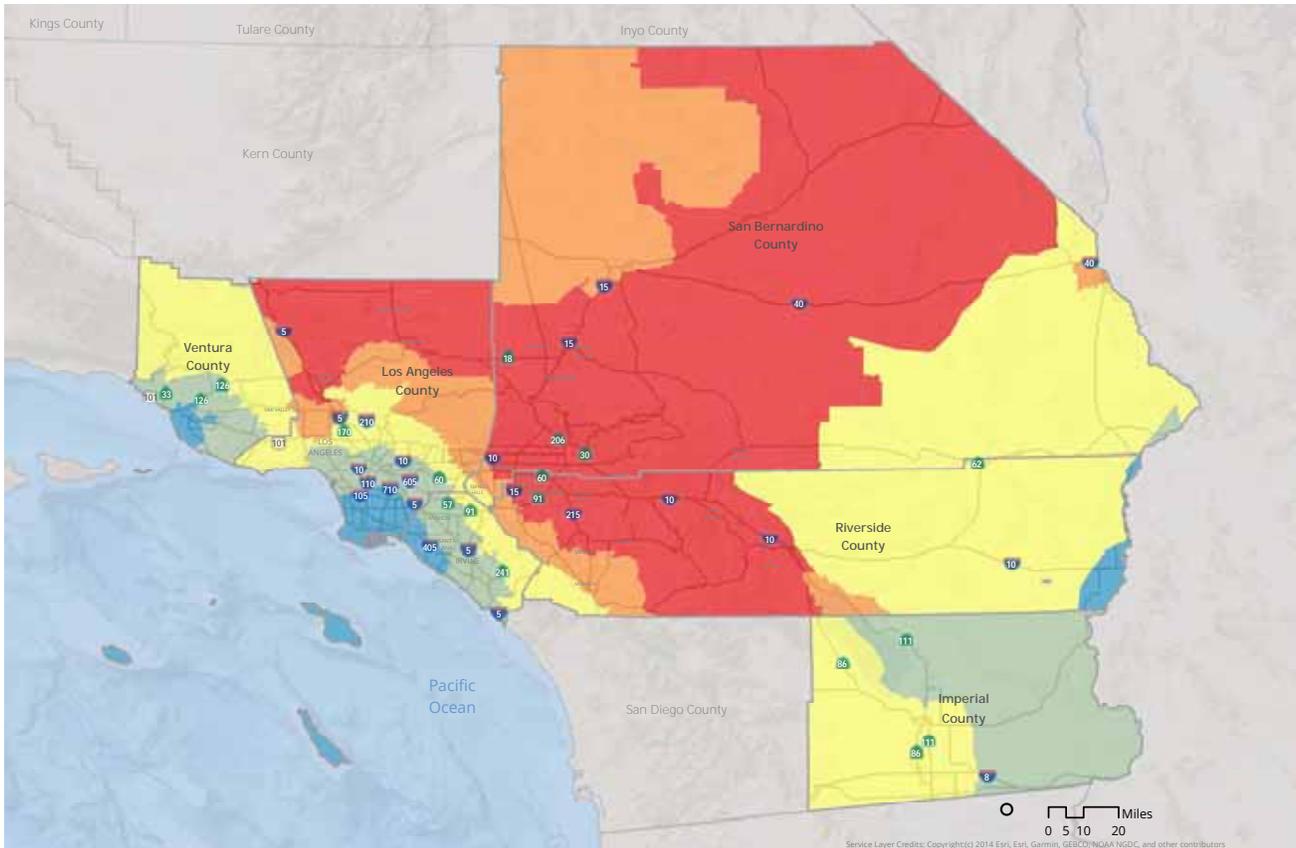
SOURCE: CAIEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE 3.3-1

Average Annual Concentration of PM2.5



1329.001•10/19



Mean of Summer Months (May-October) of the Daily Maximum 8-Hour Ozone Concentration (ppm), Averaged over Three Years (2012 to 2014)

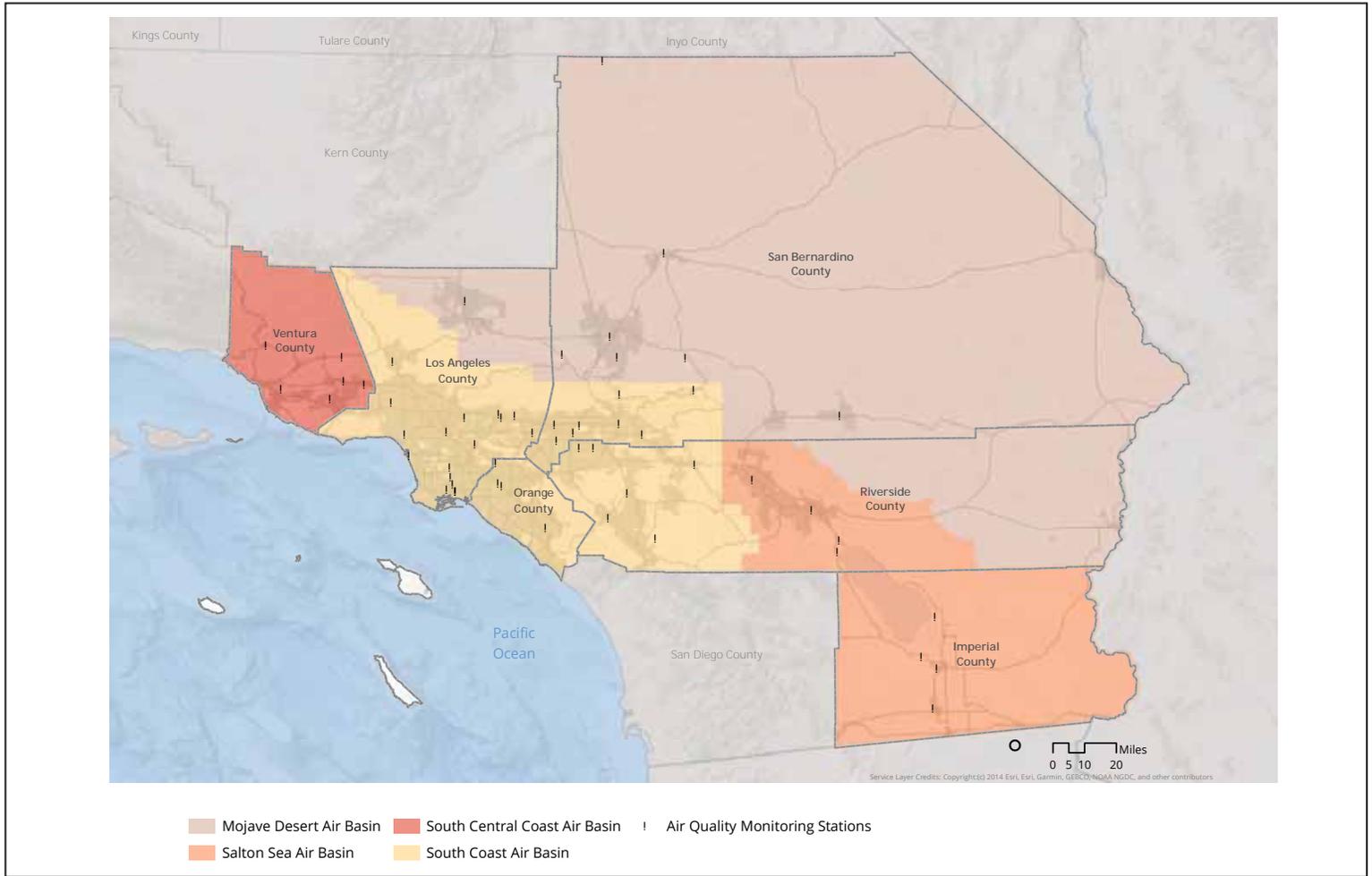
■ 0.040 - 0.045
 ■ 0.046 - 0.050
 ■ 0.051 - 0.055
 ■ 0.056 - 0.060
 ■ 0.061 - 0.068

SOURCE: CalEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE 3.3-2

Average Daily Ozone Exposure in Excess of National 8-Hour Standard



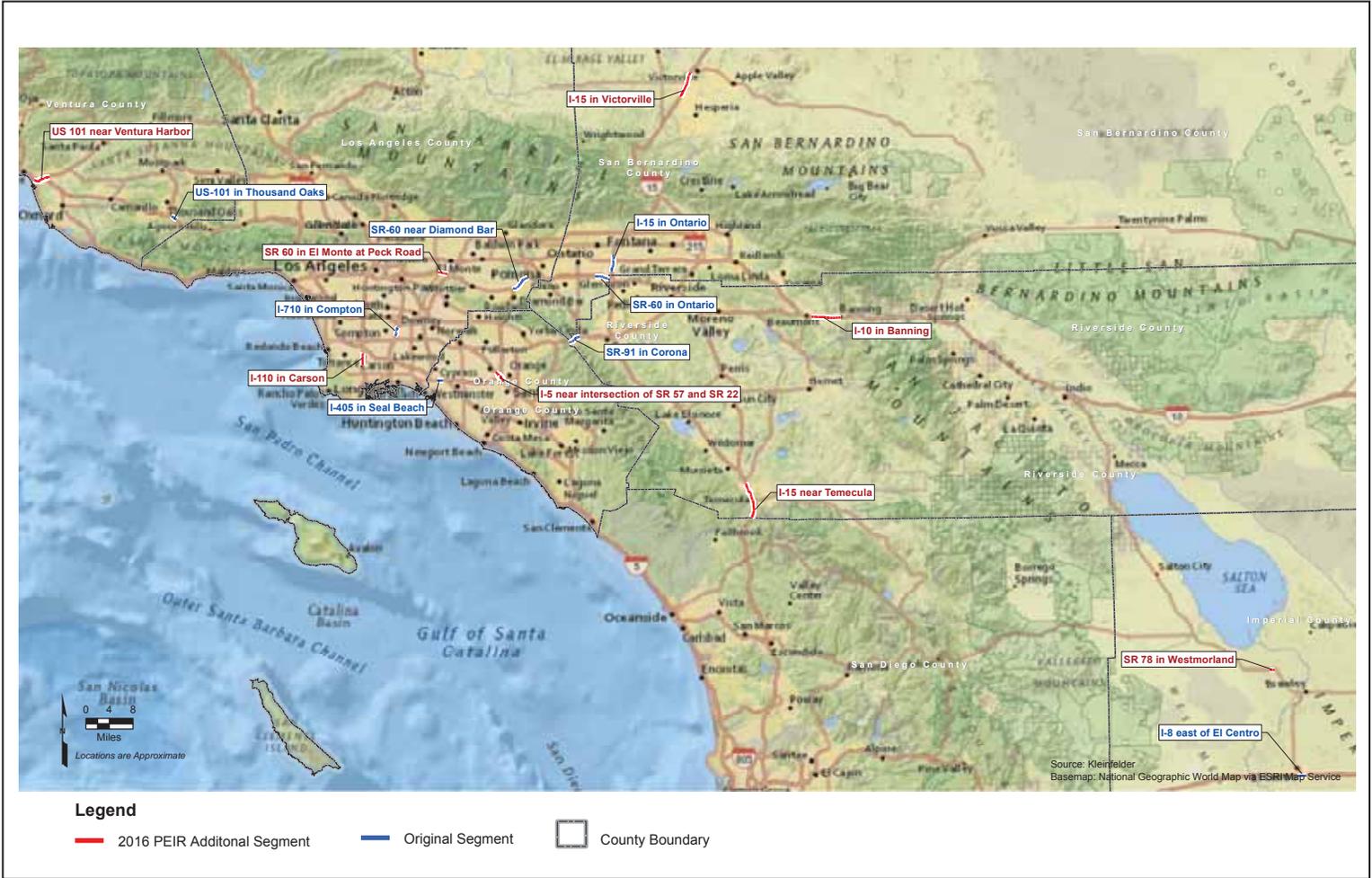


SOURCE: CalEPA, OEHHA, CalEnviroScreen 3.0, 2017

FIGURE 3.3-3

Air Quality Basins and Monitoring Stations





SOURCE: Kleinfelder, 2016

FIGURE 3.3-4

Overview Freeway Segments Evaluated in HRA



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3.4 BIOLOGICAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes biological resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern biological resources, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR table provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.4.1 ENVIRONMENTAL SETTING

The SCAG region encompasses an area of varied topography and diverse ecosystems.¹ The region covers over 38,000 square miles across six counties, encompassing two mountain ranges, two deserts, and approximately 150 miles of coastline, with elevations ranging from 0 to 10,000 feet above mean seal level (msl). Due to the remarkable variation in the region’s topography, climate, and landforms, the biological communities within the area are exceptionally diverse and call for a broad approach to their description.

The SCAG region primarily encompasses the following five United States Department of Agriculture (USDA) regionally defined Ecological Sections.²

Southern California Coast Section. This ecological region is bound to the west by the Pacific Ocean. This section has coastal terraces and low elevation ranges with alluvial lowlands. Plant communities are generally comprised of coastal sagebrush, sagebrush, chaparral, and western hardwood communities. This ecological region occurs in Ventura, Los Angeles and Orange Counties and a small portion of extreme southwestern Riverside County.

Southern California Mountain and Valley Section. Located generally east of the Southern California Coast Section, this region has a landscape of moderate elevation and narrow ranges primarily vegetated with chaparral, chaparral-mountain scrub, western hardwoods, pine, and fir-spruce communities. This ecological section is present in every SCAG county.

Mojave Desert Section. Located primarily within the northeast portion of the SCAG region, this ecological section consists of short mountain ranges, basins, playas and dunes. Much of this ecological

¹ An ecosystem is the dynamic complex of plant and animal communities and their associated non-living environment.

² Descriptions of “Ecological Subregions: Sections of the Conterminous United States. 2017. General Technical Report WO- 76B. United States Department of Agriculture, Forest Service. Available at: http://www.edc.uri.edu/ATMT-DSS/report_forecast/landscape_dynamics/SectionDescriptions.pdf, accessed August 26, 2019.

region is vegetated with creosote bush scrub and desert scrub, with pinyon-juniper and other communities within the large array of elevations within this wide section. The Mojave Desert comprises a large portion of San Bernardino County, and smaller portions of Los Angeles and Riverside Counties.

Colorado Desert Section. This area is largely a plain comprised of alluvial deposits associated with the Salton Sea in Imperial and Riverside Counties. Native vegetation is sparse creosote bush scrub and desert scrub communities, with a high concentration of agricultural lands.

Sonoran Desert Section. This area consists of desert plain interspersed with small low elevation mountain ranges primarily vegetated with creosote bush scrub and desert scrub plant communities. This section covers a large portion of eastern Imperial and Riverside Counties and the southeastern portion of San Bernardino County.

3.4.1.1 Definitions

Definitions of terms used in this section are provided.

Critical Habitat: A designated area defined by the USFWS as being important for the survival of species listed pursuant to the federal Endangered Species Act (ESA). The USFWS evaluates the collection of the environmental conditions (i.e., plant communities, range, elevation, food source, etc.) essential to the continued conservation and preservation of each species listed as federally threatened and endangered.

Federally Designated Sensitive Species: Species that are not listed by the federal government as endangered, threatened, or candidate species but are categorized by the federal government as a federal species of concern. Federal species of concern is a term-of-art that describes a taxon (organism or group of organisms) whose conservation status may be of concern to the USFWS but does not have official status. In addition, federally designated sensitive species include those that are designated as such by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) on lands that fall under their jurisdiction.

Federally Listed Species: Species provided with special legal protection under the federal ESA. A federally listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A federally threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal government for listing as endangered or threatened.

Federal Wetlands: Defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”³

Greenfield: Also known as “raw land,” land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas.

Habitat Conservation Plans (HCPs): Required by the USFWS as part of an application for an “incidental take” permit for species listed pursuant to the federal ESA. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded.

Locally Important Species: Species that are not monitored by the resource agencies but monitored by private organizations or local municipal governments. For the purposes of this PEIR, locally important species include those plant species recognized by the California Native Plant Society (CNPS), a private organization dedicated to the conservation of native plants, as well as those recognized by the Audubon Society.

Natural Community Conservation Plan (NCCP): Defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or areawide protection and perpetuation of plants, animals, and their habitats.⁴

Nursery Site: Considered habitat in which native wildlife may establish nests, maternity roosts, dens, or otherwise engage in breeding and/or the rearing of offspring.

Sensitive Plant Community: A native plant community listed on CDFW Natural Communities List as being rare within California or threatened by human actions.

Special Status Species: Species that have been afforded special recognition by federal, state, and/or local resource agencies or jurisdictions, or recognized resource conservation organizations. Special status wildlife species include: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered “Rare, Threatened, or Endangered in California” by the California Native Plant Society (Lists 1B and 2); (4) animal listed as “species of special concern” by the state; and (5) animals fully protected in California by the Fish and Game Code.

³ U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual*. Vicksburg, MS. Available online at: <http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf>, accessed August 26, 2019.

⁴ California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>, accessed August 26, 2019.

Species of Special Concern (SSC): Species, subspecies, or distinct population of an animal (bird, mammal, fish, reptile, and amphibian) native to California that currently satisfies one or more of the following criteria: (a) is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; (b) is listed as federally-, but not state-, threatened or endangered; (c) meets the state definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; (e) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.

State-designated Sensitive Species: Species that are not listed by the state government as endangered, threatened, or candidate species but are categorized by the state as a species of special concern or fully protected species. A California species of special concern is defined by the California Department of Fish and Wildlife (CDFW) as being a wildlife species that has declining population levels, a limited range, and/or continuing threats that have made it vulnerable to extinction.

State-Listed Species: Species provided special legal protection under the California ESA. A state-listed endangered species is a species that is in danger of extinction throughout all or a significant portion of its range. A state-listed threatened species is one likely to become endangered in the absence of special protection or management efforts provided by the listing. A candidate species is one that is proposed by the federal or state government for listing as endangered or threatened.

State Wetlands/Streams: Defined by the California Fish and Game Code. A *stream* is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. *Wetlands* are defined as areas having riparian vegetation, without regard to wetland vegetation, soils, or hydrology. Defined by the SWRCB it is area that, under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Waters of the United States: Surface waters such as navigable waters and their tributaries, all interstate waters and their tributaries, natural lakes, all wetlands adjacent to other waters, and all impoundments of these waters. On April 21, 2014, the U.S. EPA proposed to refine the definition of waters of the United States to include all tributaries of traditional navigable waters, interstate waters, territorial seas, and

impoundments of such tributaries; wetlands adjacent to the foregoing; and waters other than wetlands that are adjacent to other jurisdictional waters.⁵

Wildlife Movement Corridors: Characterized as areas of habitat that are used by wildlife for the purpose of moving between locations.

3.4.1.2 Special-Status Species and Critical Habitat

Special-status species are generally defined as: (1) species listed as a candidate, threatened, or endangered under the federal or state Endangered Species Act; (2) species considered rare or endangered under the California Environmental Quality Act; (3) plants considered “Rare, Threatened, or Endangered in California” by the California Native Plant Society (Lists 1B and 2); (4) animal listed as “species of special concern” by the state; and (5) animals fully protected in California by the Fish and Game Code.

Critical habitat is a specific geographic area that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is designated by the USFWS under the Federal Endangered Species Act (FESA) and cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The listing process for individual species may include designation of critical habitat. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.⁶

The following discussion is based on a background search of special-status species that are documented in the CNDDDB,⁷ the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants,⁸ and the US Fish and Wildlife Service’s (USFWS) Endangered and Threatened species list.⁹ The background search was regional in scope and focused on the documented occurrences within the boundaries of the SCAG region.

As described in **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**, below, there are 63 federally or state-listed wildlife species and 72 plant species with

⁵ Federal Register. 2014. *Proposed Rules. 79(76)*. April. Available online at: <http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf>, accessed March 19, 2019.

⁶ U.S. Department of Fish and Wildlife. *Critical Habitat under the Endangered Species Act*. Available online at: <https://www.fws.gov/southeast/endangered-species-act/critical-habitat/>, accessed August 26, 2019.

⁷ California Department of Fish and Wildlife. *California Natural Diversity Database*. Available online at: <https://www.wildlife.ca.gov/Data/CNDDDB>, accessed August 26, 2019.

⁸ California Native Plant Society. *Welcome to the Inventory of Rare and Endangered Plants of California*. Available online at: <http://www.rareplants.cnps.org/>, accessed August 26, 2019.

⁹ U.S. Fish and Wildlife Services. *Endangered Species*. Available online at: <https://www.fws.gov/endangered/>, accessed August 26, 2019.

historical records located within the six counties of the SCAG region as well as nearly 5.5 million acres of designated critical habitat. **Table 3.4-1, Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**, provides further detail on the state- and federally- listed plant and animal species, as well as their affiliated critical habitat, within the SCAG region.

**Table 3.4-1
Summary of Special-Status Species and Designated Critical Habitat in the SCAG Region**

County	Number Federally and State-Listed Wildlife Species	Number Federally and State-Listed Plant Species	Acres of Critical Habitat
Imperial	19	4	423,065
Los Angeles	37	30	108,574
Orange	22	11	27,833
Riverside	34	21	938,789
San Bernardino	32	24	3,673,963
Ventura	28	19	358,793
Entire SCAG Region	63	72	5,530,964

Source: California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Every county within the SCAG region contains USFWS-designated critical habitat for listed species (**Figure 3.4-1, Designated Critical Habitat in the SCAG Region**). Critical habitat for 46 of these federally listed species has been established within the SCAG region (see **Appendix 3.4**). San Bernardino, the largest county in the country, contains nearly 3,700,000 acres of designated critical habitat, or over 66% of the lands designated in the SCAG region. Both San Bernardino and Riverside each have designated habitat for 22 federally-listed species, the most of any SCAG counties. More than 86 percent (4,685,378 acres) of all the critical habitat in the region is for desert tortoise (*Gopherus agassizii*) and this species represents the largest designated critical habitat in the four of the six SCAG counties in which it is present (San Bernardino, Riverside, Los Angeles, and Imperial Counties). Coastal California gnatcatcher (*Poliophtila californica californica*) has the largest critical habitat in Orange County (with 19,000 acres, or nearly 67 percent of the designated lands in the County). California Condor (*Gymnogyps californianus*) has nearly 180,000 acres designated in Ventura County, or almost 50 percent of all critical habitat designated in the County. Each county has designated critical habitat for a wide variety of species (including plants, amphibians, fish, reptiles, insects, crustaceans, birds, and mammals) and each county has a wide diversity of natural communities to support these species.

State and Federally Listed Species

A search of relevant literature and databases for the six counties of the SCAG region was performed to develop a list of 135 listed species and biological resources that could potentially occur in the SCAG region, as shown in **Table 3.4-2, Federally and State Listed Species Reported in the SCAG Region.**¹⁰ These included federally listed threatened and endangered and state-listed threatened, endangered or rare species. Although only the third largest county in the region, Los Angeles had the greatest number of listed species with 67. Imperial County had the fewest species listed with 23.

**Table 3.4-2
Federally and State Listed Species Reported in the SCAG Region**

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
Plants				
<i>Acanthoscyphus parishii</i> var. <i>goodmanian</i>	Cushenbury oxytheca	FE, CRPR: 1B.1	SB	ND
<i>Acemispion argophyllus</i> var. <i>adsurgens</i>	San Clemente Island bird's-foot trefoil	SE, CRPR: 1B.1	LA	ND
<i>Acemispion dendroideus</i> var. <i>traskiae</i>	San Clemente Island lotus	FT, SE, CRPR: 1B.3	LA	ND
<i>Allium munzii</i>	Munz's onion	FE, ST, CRPR: 1B.1	RIV	98
<i>Ambrosia pumila</i>	San Diego ambrosia	FE, CRPR: 1B.1	RIV	307
<i>Arenaria paludicola</i>	Marsh sandwort	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE, CRPR: 1B.1	SB	4,370
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE, CRPR: 1B.1	LA, VEN, OR	3298
<i>Astragalus jaegerianus</i>	Lane Mountain milk-vetch	FE, CRPR: 1B.1	SB	14167
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE, CRPR: 1B.2	RIV	9671
<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Peirson's milk-vetch	FT, SE, CRPR: 1B.2	IMP	12105
<i>Astragalus pyncnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh milk-vetch	FE, SE, CRPR: 1B.1	LA, OR, VEN	220
<i>Astragalus tener</i> var. <i>titi</i>	Coastal dunes milk-vetch	FE, SE, CRPR: 1B.1	LA	ND
<i>Astragalus traskiae</i>	Trask's milkvetch	SR, CRPR: 1B.2	VEN	ND
<i>Astragalus tricarinatus</i>	Triple-ribbed milk vetch	FE, CRPR: 1B.2	RIV, SB	ND
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto valley crownscale	FE, CRPR: 1B.1	RIV	ND

¹⁰ CNDDDB (RareFind 5): administered by CDFW; Biogeographical Data Branch inventories the status and locations of rare plants, animals, and natural communities in California.
 CNPS online electronic Inventory of Rare and Endangered Vascular Plants of California
 Calflora, Information on wild California plants for conservation, education, and appreciation.
<http://www.calflora.org/>.
 Information about birds. <http://ebird.org>.

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Berberis nevinii</i>	Nevin's barberry	FE, SE, CRPR: 1B.1	LA, RIV, SB	5.3
<i>Berberis pinnata</i> ssp. <i>insularis</i>	Island barberry	FE, SE, CRPR: 1B.2	VEN	ND
<i>Boechera hoffmannii</i>	Hoffmann's rockcress	FE, CRPR: 1B.1	VEN	ND
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea		LA, OR, RIV, SB	2799
<i>Castilleja cinerea</i>	Ash-gray paintbrush	FT, CRPR: 1B.2	SB	1767
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	SR, CRPR: 1B.2	LA	ND
<i>Castilleja grisea</i>	San Clemente Island paintbrush	FT, SE, CRPR: 1B.3	LA	ND
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	FT, SE, CRPR: 1B.1	RIV	200
<i>Cercocarpus traskiae</i>	Catalina Island mountain-mohogany	FE, SE, CRPR: 1B.1	LA	ND
<i>Chloropyron maritimum</i> ssp. <i>Maritimum</i>	Salt marsh bird's-beak	FE, SE, CRPR: 1B.2	LA, OR, RIV, SB, VEN	ND
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FPT, SE, CRPR: 1B.1	LA, OR, VEN	ND
<i>Crocanthemum greenei</i>	Island rush-rose	FT, CRPR: 1B.2	LA	ND
<i>Croton wigginsii</i>	Wiggins' croton	SR, CRPR: 2B.2	IMP	ND
<i>Deinandra minthornii</i>	Santa Susana tarplant	SR, CRPR: 1B.2	LA, VEN	ND
<i>Deinandra mohavensis</i>	Mojave tarplant	SE, CRPR: 1B.3	RIV, SB	ND
<i>Delphinium hesperium</i> ssp. <i>Cuyamaca</i>	Cuyamaca larkspur	SR, CRPR: 1B.2	RIV	ND
<i>Delphinium variegatum</i> ssp. <i>Kinkiense</i>	San Clemente Island larkspur	FE, SE, CRPR: 1B.1	LA	ND
<i>Dithyrea maritima</i>	Beach spectaclepod	ST, CRPR: 1B.1	LA, VEN	ND
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE, SE, CRPR: 1B.1	LA, RIV, SB	ND
<i>Dudleya cymosa</i> ssp. <i>Agourensis</i>	Agoura Hills dudleya	FT, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>Marcescens</i>	Marcescent dudleya	FT, SR, CRPR: 1B.2	LA, VEN	ND
<i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i>	Santa Monica dudleya	FT, CRPR: 1B.1	LA	ND
<i>Dudleya parva</i>	Conejo dudleya	FT, CRPR: 1B.2	VEN	ND
<i>Dudleya stolonifera</i>	Laguna Beach dudleya	FT, ST, CRPR: 1B.1	OR	ND
<i>Dudleya verityi</i>	Verity's dudleya	FT, CRPR: 1B.1	VEN	ND
<i>Eremalche parryi</i> ssp. <i>Kernensis</i>	Kern mallow	FE, CRPR: 1B.22	VEN	ND
<i>Eremogone ursina</i>	Big Bear Valley sandwort	FT, CRPR: 1B.2	SB	1411
<i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i>	Santa Ana River woollystar	FE, SE, CRPR: 1B.1	OR, RIV, SB	ND
<i>Erigeron parishii</i>	Parish's daisy	FT, CRPR: 1B.1	RIV, SB	4,420
<i>Eriogonum crocatum</i>	Conejo buckwheat	SR, CRPR: 1B.2	VEN	ND
<i>Eriogonum grande</i> var. <i>timorum</i>	San Nicolas Island buckwheat	SE, CRPR: 1B.1	VEN	ND
<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	Southern Mountain buckwheat	FT, CRPR: 1B.2	SB	ND
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	FE, CRPR: 1B.1	SB	6,950
<i>Eriogonum thornei</i>	Thorne's buckwheat	SE, CRPR: 1B.2	SB	ND
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button celery	FE, SE, CRPR: 1B.1	IMP, RIV, LA, OR	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Galium angustifolium</i> ssp. <i>Borregoense</i>	Borrego bedstraw	SR, CRPR: 1B.3	IMP	ND
<i>Galium catalinense</i> ssp. <i>Acrispum</i>	San Clemente Island bedstraw	SE, CRPR: 1B.3	LA	ND
<i>Helianthus niveus</i> ssp. <i>Tephrodes</i>	Algodones Dune's sunflower	SE, CRPR: 1B.2	IMP	ND
<i>Ivesia callida</i>	Tahquitz ivesia	SR, CRPR: 1B.3	RIV	ND
<i>Lithophragma maximum</i>	San Clemente Island woodland star	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothamnus clementinus</i>	San Clemente Island bush mallow	FE, SE, CRPR: 1B.1	LA	ND
<i>Malacothrix squalida</i>	Island malacothrix	FE, CRPR: 1B.1	VEN	ND
<i>Nasturtium gambelii</i>	Gambel's water cress	FE, ST, CRPR: 1B.1	LA, OR, SB	ND
<i>Navarretia fossalis</i>	Spreading navarretia	FT, CRPR: 1B.1	LA, RIV	6,519
<i>Orcuttia californica</i>	California orcutt grass	FE, SE, CRPR: 1B.1	LA, RIV, VEN, OR	ND
<i>Packera ganderi</i>	Gander's ragwort	SR, CRPR: 1B.2	RIV	ND
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	FE, SE, CRPR: 1B.1	LA, VEN	3,580
<i>Physaria kingii</i> ssp. <i>Bernardina</i>	San Bernardino Mountains bladderpod	FE, CRPR: 1B.1	SB	1,026
<i>Poa atropurpurea</i>	San Bernardino blue grass	FE, CRPR: 1B.2	SB	1,415
<i>Sibara filifolia</i>	Santa Cruz Island rock cress	FE, CRPR: 1B.1	LA	ND
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	SR, CRPR: 1B.2	SB	ND
<i>Sidalcea pedata</i>	Bird-foot checkerbloom	FE, SE, CRPR: 1B.1	SB	ND
<i>Taraxacum californicum</i>	California dandelion	FE, CRPR: 1B.1	SB	1,955
<i>Thelypodium stenopetalum</i>	Slender-petaled thelypodium	FE, SE, CRPR: 1B.1	SB	ND
<i>Verbesina dissita</i>	Big-leaved crownbeard	FT, ST, CRPR: 1B.1	OR	ND
Crustaceans				
<i>Branchinecta conservation</i>	Conservancy fairy shrimp	FE	VEN	46,430
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	LA, RIV	46,430
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE	RIV, OR	200
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	LA, OR, RIV	2,050
Insects				
<i>Dinacoma caseyi</i>	Casey's June beetle	FE	RIV	594
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	FE	LA	
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	FE	SB, LA, RIV, OR	22,023
<i>Euproserpinus euterpe</i>	Kern primrose sphinx moth	FT	VEN	ND
<i>Glaucopsyche lygdamus palosverdesensis</i>	Palos Verdes blue butterfly	FE	LA	91
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi sands flower-loving fly	FE	RIV, SB	ND
Fish				

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Catostomus santaanae</i>	Santa Ana sucker	FT	LA, VEN, OR, RIV, SB	9,360
<i>Cyprinodon macularius</i>	Desert pupfish	FE, SE	IMP, RIV	ND
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE	LA, OR, VEN	448
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine stickleback	FE, SE	LA, VEN, SB	ND
<i>Gila elegans</i>	Bonytail	FE, SE	IMP, SB	10,113
<i>Oncorhynchus mykiss irideus</i>	Southern steelhead – southern California DPS	FE	LA, OC, VEN, RIV	292
<i>Ptychocheilus lucius</i>	Colorado pikeminnow	FE, SE	IMP, SB	ND
<i>Siphateles bicolor mohavensis</i>	Mohave tui chub	FE, SE	SB, LA	ND
<i>Xyrauchen texanus</i>	Razorback sucker	FE, SE	IMP, RIV, SB	9,166
Amphibians				
<i>Anaxyrus californicus</i>	Arroyo toad	FE	LA, VEN, OR, RIV, SB	30,800
<i>Batrachoseps major aridus</i>	Desert slender salamander	FE, SE	RIV	ND
<i>Rana boylei</i>	Foothill yellow-legged frog	SCT	VEN, LA, SB	
<i>Rana draytonii</i>	California red-legged frog	FT	LA, RIV, SB, VEN	33,279
<i>Rana muscosa</i>	Southern mountain yellow-legged frog	FE, SE	LA, SB, RIV	8,280
Reptiles				
<i>Charina umbratica</i>	Southern rubber boa	ST	VEN, RIV, SB	ND
<i>Chelonia mydas</i>	Green turtle	FT	LA, OR	ND
<i>Coleonyx switaki</i>	Barefoot gecko	ST	IMP	ND
<i>Gambelia sila</i>	Blunt-nosed leopard lizard	FE, SE	VEN	ND
<i>Gopherus agassizii</i>	Desert tortoise	FT, ST	IMP, SB, LA, RIV	4,685,740
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	FT, SE	RIV	11,790
Birds				
<i>Agelaius tricolor</i>	Tricolored blackbird	ST	LA, OR, RIV, SB, VEN	ND
<i>Artemisiospiza belli clementeae</i>	San Clemente sage sparrow	FT	LA	ND
<i>Buteo swainsoni</i>	Swainson's hawk	ST	LA, OR, RIV, SB	ND
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT	IMP, LA, OR, RIV, SB, VEN	1,400
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FT, SE	IMP, LA, RIV, SB, VEN, OR	39,015
<i>Colaptes chrysoides</i>	Gilded flicker	SE	IMP, RIV, SB	ND
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	FE, SE	IMP, LA, OR, RIV, SB, VEN	24,980
<i>Gymnogyps californianus</i>	California condor	FE, SE	VEN, LA	187,558
<i>Haliaeetus leucocephalus</i>	Bald eagle	SE	IMP, LA, OR, RIV, SB	ND

Scientific Names	Common Name	Status	Counties Where Reported	Designated Critical Habitat (Acres)
<i>Lanius ludovicianus mearnsi</i>	San Clemente loggerhead shrike	FE	LA	ND
<i>Laterallus jamaicensis coturniculus</i>	California black rail	ST	IMP, LA, OR, RIV, SB, VEN	ND
<i>Melanerpes uropygialis</i>	Gila woodpecker	SE	IMP, RIV, SB	ND
<i>Micrathene whitneyi</i>	Elf owl	SE	IMP, RIV, SB	ND
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	SE	LA, OR, VEN	ND
<i>Polioptila californica</i>	Coastal California gnatcatcher	FT	LA, VEN, OR, RIV, SB	120,891
<i>Rallus obsoletus levipes</i>	Light-footed Ridgeway's clapper rail	FE, SE	OR, VEN	ND
<i>Rallus obsoletus yumanensis</i>	Yuma clapper rail	FE, ST	IMP, RIV, SB	ND
<i>Riparia riparia</i>	Bank swallow	ST	LA, OR, VEN	ND
<i>Sterna antillarum browni</i>	California least tern	FE, SE	LA, OR, VEN	ND
<i>Synthliboramphus scrippsi</i>	Scripps's murrelet	FC, ST	LA	ND
<i>Vireo bellii arizonae</i>	Arizona Bell's vireo	SE	IMP, RIV, SB	ND
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, SE	IMP, LA, OR, VEN, RIV, SB	14,300
Mammals				
<i>Ammospermophilus nelsoni</i>	Nelson's antelope squirrel	ST	LA, VEN	ND
<i>Arctocephalus townsendi</i>	Guadalupe fur-seal	FT, ST	VEN	ND
<i>Canis lupus</i>	Gray wolf	FE, SE	SB	ND
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE	LA, RIV, SB	33,290
<i>Dipodomys stephensi</i>	Stephen's kangaroo rat	FE, ST	RIV, SB	ND
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	VEN	ND
<i>Ovis canadensis nelson pop. 2</i>	Peninsular bighorn sheep DPS	FE, ST	IMP, RIV	115,845
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE	LA, OR	ND
<i>Urocyon littoralis catalinae</i>	Santa Catalina Island fox	FT, ST	LA	ND
<i>Urocyon littoralis clementae</i>	San Clemente Island fox	ST	LA	ND
<i>Urocyon littoralis dickeyi</i>	San Nicolas Island fox	ST	VEN	ND
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	ST	LA, SB	ND

Note:

California Native Plant Society: California Rare Plant Rank (CRPR) 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; FC = Federal Candidate; FE = Federal Endangered; FT = Federal Threatened; SE = State Endangered; FPT = Federal Proposed Threatened; SR = State Rare; SCT = State Candidate Threatened; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County; ND = none designated.

Sensitive Wildlife Species

A query of the CNDDDB was performed to develop a list of sensitive wildlife species recognized by the CDFW as California Species of Special Concern, or species that are tracked by the CNDDDB that could potentially occur in the SCAG region. In addition to the federally and State-listed wildlife species described above, there are 233 sensitive wildlife species with historic records located within the SCAG region (Table 3.4-3, **Sensitive Wildlife Species Reported in the SCAG Region**, and Figure 3.4-2, **Sensitive Wildlife Species Reported in the SCAG Region**).¹¹

Of these 233 sensitive wildlife species, Riverside and San Bernardino Counties had the highest diversity of species observed (both with more than 21 percent of the total recorded for the SCAG region), followed closely by Los Angeles County (with more than 20 percent of the wildlife recorded), and then Imperial, Orange, and Ventura Counties (with a range of 12–13 percent of the recorded observations).

**Table 3.4-3
Sensitive Wildlife Species Reported in the SCAG Region**

Scientific Name	Common Name	Status	Counties Reported
Crustaceans			
<i>Linderiella santarosae</i>	Santa Rosa Plateau fairy shrimp	CSA	RIV
Mollusks			
<i>Assiminea infima</i>	Badwater snail	CSA	SB
<i>Eremarionta immaculata</i>	white desertsnailed	CSA	RIV
<i>Eremarionta morongoana</i>	Morongo (=Colorado) desertsnailed	CSA	SB
<i>Eremarionta rowelli bakerensis</i>	Baker's desertsnailed	CSA	SB
<i>Eremarionta rowelli mccoiana</i>	California Mcco snail	CSA	RIV
<i>Haplotrema catalinense</i>	Santa Catalina lancetooth	CSA	LA
<i>Helminthoglypta ayresiana sanctaerucis</i>	Ayer's snail	CSA	VEN
<i>Helminthoglypta mohaveana</i>	Victorville shoulderband	CSA	SB
<i>Helminthoglypta taylori</i>	Westfork shoulderband	CSA	SB
<i>Helminthoglypta traskii</i>	Trask shoulderband	CSA	VEN
<i>Micrarionta feralis</i>	San Nicolas islandsnail	CSA	VEN
<i>Micrarionta gabbi</i>	San Clemente islandsnail	CSA	LA
<i>Micrarionta opuntia</i>	Pricklypear islandsnail	CSA	VEN
<i>Pristiloma shepardae</i>	Shepard's snail	CSA	LA

¹¹ California Department of Fish and Wildlife. 2018. *CNDDDB QuickView Tool in BIOS*. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Scientific Name	Common Name	Status	Counties Reported
<i>Radiocentrum avalonense</i>	Catalina mountainsnail	CSA	LA
<i>Sterkia clementina</i>	San Clemente Island blunt-top snail	CSA	LA, VEN
<i>Tryonia imitator</i>	Mimic tryonia (=California brackishwater snail)	CSA	LA, OR, VEN
<i>Xerarionta intercisa</i>	Horseshoe snail	CSA	LA
<i>Xerarionta redimita</i>	Wreathed cactusnail	CSA	LA
Arachnids			
<i>Calileptoneta oasa</i>	Andreas Canyon leptonetid spider	CSA	RIV
<i>Socalchemmis gertschi</i>	Gertsch's socialchemmis spider	CSA	LA
<i>Socalchemmis icenoglei</i>	Icenogle's socialchemmis spider	CSA	RIV
<i>Texella kokoweef</i>	Kokoweef Crystal Cave harvestman	CSA	SB
Insects			
<i>Aglaothorax longipennis</i>	Santa Monica shieldback katydid	CSA	LA
<i>Ammopelmatus kelsoensis</i>	Kelso jerusalem cricket	CSA	SB
<i>Anomala carlsoni</i>	Carlson's dune beetle	CSA	IMP
<i>Anomala hardyorum</i>	Hardy's dune beetle	CSA	IMP
<i>Belostoma saratogae</i>	Saratoga Springs belostoman bug	CSA	SB
<i>Brennania belkini</i>	Belkin's dune tabanid fly	CSA	LA
<i>Callophrys mossii hidakupa</i>	San Gabriel Mountains elfin butterfly	CSA	LA, SB
<i>Carolella busckana</i>	Busck's gallmoth	CSA	LA, RIV, SB
<i>Ceratochrysis bradleyi</i>	Bradley's cuckoo wasp	CSA	RIV
<i>Ceratochrysis longimala</i>	Desert cuckoo wasp	CSA	LA, VEN, RIV
<i>Cicindela gabbii</i>	Western tidal-flat tiger beetle	CSA	LA, OR
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	CSA	LA, OR, VEN
<i>Cicindela latesignata</i>	Western beach tiger beetle	CSA	LA, OR
<i>Cicindela senilis frosti</i>	Senile tiger beetle	CSA	LA, OR, RIV, VEN
<i>Cicindela tranquebarica viridissima</i>	Greenest tiger beetle	CSA	RIV
<i>Coelus globosus</i>	Globose dune beetle	CSA	LA, OR, VEN
<i>Danaus plexippus</i>	Monarch butterfly	CSA	LA, OR, VEN
<i>Diplectronea californica</i>	California diplectronan caddisfly	CSA	LA, SB
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	CSA	SB
<i>Eucosma hennei</i>	Henne's eucosman moth	CSA	LA
<i>Glaresis arenata</i>	Kelso Dunes scarab glaresis beetle	CSA	SB
<i>Halictus harmonius</i>	Haromonius halictid bee	CSA	RIV, SB
<i>Hedychridium argenteum</i>	Riverside cuckoo wasp	CSA	RIV
<i>Hydroporus simplex</i>	Simple hydroporus diving beetle	CSA	SB
<i>Lepismadora algodones</i>	Algodones sand jewel beetle	CSA	IMP
<i>Macrobaenetes kelsoensis</i>	Kelso giant sand treader cricket	CSA	SB
<i>Macrobaenetes valgum</i>	Coachella giant sand treader cricket	CSA	RIV
<i>Melitta californica</i>	California mellitid bee	CSA	IMP, RIV

Scientific Name	Common Name	Status	Counties Reported
<i>Miloderes nelsoni</i>	Nelson's miloderes weevil	CSA	SB
<i>Minymischa ventura</i>	Ventura cuckoo wasp	CSA	VEN
<i>Oliarces clara</i>	Cheeseweed owlfly (cheeseweed moth lacewing)	CSA	IMP, RIV, SB
<i>Onychobaris langei</i>	Lange's El Segundo Dune weevil	CSA	LA
<i>Panoquina errans</i>	Wandering (=saltmarsh) skipper	CSA	LA, OR, VEN
<i>Paranomada californica</i>	California cuckoo bee	CSA	SB
<i>Parnopes borregoensis</i>	Borrego parnopes cuckoo wasp	CSA	SB
<i>Pelocoris shoshone</i>	Amargosa naucorid bug	CSA	SB
<i>Plebejus saepiolus aureolus</i>	San Gabriel Mountains blue butterfly	CSA	LA, SB
<i>Plebulina emigdionis</i>	San Emigdio blue butterfly	CSA	LA, VEN, SB
<i>Polyphylla erratica</i>	Death Valley June beetle	CSA	SB
<i>Pseudocotalpa andrewsi</i>	Andrew's dune scarab beetle	CSA	IMP
<i>Psychomastax deserticola</i>	Desert monkey grasshopper	CSA	SB
<i>Rhaphiomidas terminatus terminatus</i>	El Segundo flower-loving fly	CSA	LA
<i>Rhopalolemma robertsi</i>	Roberts' rhopalolemma bee	CSA	RIV, SB
<i>Stenopelmatus cahuilansensis</i>	Coachella Valley jerusalem cricket	CSA	RIV
<i>Trigonoscuta brunnotesselata</i>	Brown tassel trigonoscuta weevil	CSA	SB
<i>Trigonoscuta dorothea</i>	Dorothy's El Segundo Dune weevil	CSA	LA, OR
<i>Trimerotropis occidentiloides</i>	Santa Monica grasshopper	CSA	LA, VEN
Fish			
<i>Catostomus latipinnis</i>	Flannelmouth sucker	CSA	SB
<i>Cyprinodon nevadensis amargosae</i>	Amargosa pupfish	SSC	SB
<i>Cyprinodon nevadensis nevadensis</i>	Saratoga Springs pupfish	SSC	SB
<i>Gila orcuttii</i>	Arroyo chub	SSC	SB, LA, VEN, OR, RIV
<i>Rhinichthys osculus</i> ssp. 1	Amargosa Canyon speckled dace	SSC	SB
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	SSC	SB, LA, OR, RIV
Amphibians			
<i>Batrachoseps gabrieli</i>	San Gabriel slender salamander	CSA	LA, SB
<i>Batrachoseps pacificus</i>	Channel Islands slender salamander	CSA	VEN
<i>Ensatina eschscholtzii croceator</i>	Yellow-blotched salamander	SSC	LA
<i>Ensatina klauberi</i>	Large-blotched salamander	SSC	LA, RIV, SB
<i>Incilius alvarius</i>	Sonoran desert toad	SSC	IMP, SB
<i>Lithobates pipiens</i>	Northern leopard frog	SSC	IMP, OR, RIV
<i>Lithobates yavapaiensis</i>	Lowland (=Yavapai, San Sebastian & San Felipe) leopard frog	SSC	IMP, RIV
<i>Rana boylei</i>	Foothill yellow-legged frog	SSC	VEN
<i>Scaphiopus couchii</i>	Couch's spadefoot	SSC	IMP, RIV
<i>Spea hammondi</i>	Western spadefoot	SSC	LA, OR, RIV, VEN
<i>Taricha torosa</i>	Coast Range newt	SSC	LA, OR, RIV, VEN

Scientific Name	Common Name	Status	Counties Reported
Reptiles			
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	SSC	LA, RIV, SB, VEN
<i>Aspidoscelis hyperythra</i>	Orangethroat whiptail	SSC	OR, RIV, SB
<i>Aspidoscelis tigris stejnegeri</i>	Coastal whiptail	CSA	LA, OR, RIV, SB, VEN
<i>Charina trivirgata</i>	Rosy boa	CSA	LA, OR, RIV, SB
<i>Coleonyx variegatus abbotti</i>	San Diego banded gecko	CSA	RIV
<i>Crotalus ruber</i>	Red-diamond rattlesnake	SSC	IMP, OR, RIV, SB
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	CSA	LA, RIV, SB
<i>Emys marmorata</i>	Western pond turtle	SSC	LA, OR, SB, RIV, VEN
<i>Heloderma suspectum cinctum</i>	Banded gila monster	SSC	IMP, SB, RIV
<i>Kinosternon sonoriense</i>	Sonoran mud turtle	SSC	IMP, RIV
<i>Lampropeltis zonata (parvirubra)</i>	California mountain kingsnake (San Bernardino population)	SSC	LA, RIV, SB
<i>Lampropeltis zonata (pulchra)</i>	California mountain kingsnake (San Diego population)	SSC	LA, OR
<i>Phrynosoma blainvillii</i>	Coast horned lizard	SSC	VEN, LA, OR, RIV, SB
<i>Plestiodon skiltonianus interparietalis</i>	Coronado Island skink	SSC	RIV
<i>Salvadora hexalepis virgultea</i>	Coast patch-nosed snake	SSC	OR, RIV, VEN
<i>Thamnophis hammondi</i>	Two-striped garter snake	SSC	LA, OR, RIV, SB, VEN
<i>Thamnophis sirtalis ssp.</i>	South coast garter snake	SSC	VEN
<i>Uma notata</i>	Colorado Desert fringe-toed lizard	SSC	IMP
<i>Uma scoparia</i>	Mojave fringe-toed lizard	SSC	SB, RIV
Birds			
<i>Accipiter cooperii</i>	Cooper's hawk	CSA	IMP, LA, OR, RIV, SB, VEN
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	CSA	LA, VEN, OR, RIV, SB
<i>Ammodramus savannarum</i>	Grasshopper sparrow	SSC	LA, OR
<i>Aquila chrysaetos</i>	Golden eagle	CFP	IMP, LA, OR, SB, RIV, VEN
<i>Ardea alba</i>	Great egret	CSA	IMP, RIV
<i>Ardea herodias</i>	Great blue heron	CSA	IMP, OR, RIV
<i>Artemisospiza belli belli</i>	Bell's sage sparrow	CSA	LA, RIV, SB
<i>Asio flammeus</i>	Short-eared owl	SSC	LA
<i>Asio otus</i>	Long-eared owl	SSC	OR, RIV, SB
<i>Athene cucularia</i>	Burrowing owl	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Buteo regalis</i>	Ferruginous hawk	CSA	IMP, LA, OR, RIV, VEN
<i>Calypte costae</i>	Costa's hummingbird	CSA	SB
<i>Campylorhynchus brunneicapillus sandiegensis</i>	Coastal cactus wren	SSC	LA, OR, RIV
<i>Cardinalis cardinalis</i>	Northern cardinal	CSA	RIV, SB
<i>Charadrius montanus</i>	Mountain plover	SSC	IMP, RIV, LA, SB
<i>Circus cyaneus</i>	Northern harrier	SSC	OR, RIV
<i>Cypseloides niger</i>	Black swift	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
<i>Dendragapus fuliginosus howardi</i>	Mount Pinos sooty grouse	SSC	VEN
<i>Egretta thula</i>	Snowy egret	CSA	RIV
<i>Elanus leucurus</i>	White-tailed kite	CFP	LA, OR, RIV, SB, VEN
<i>Eremophila alpestris actia</i>	California horned lark	CSA	LA, OR, RIV, SB, VEN
<i>Falco columbarius</i>	Merlin	CSA	IMP, LA, RIV
<i>Falco mexicanus</i>	Prairie falcon	CSA	IMP, VEN, LA, RIV, SB
<i>Gelochelidon nilotica</i>	Gull-billed tern	SSC	IMP, RIV
<i>Hydroprogne caspia</i>	Caspian tern	CSA	IMP
<i>Icteria virens</i>	Yellow-breasted chat	SSC	IMP, LA, OR, RIV, SB, VEN
<i>Ixobrychus exilis</i>	Least bittern	SSC	IMP
<i>Junco hyemalis caniceps</i>	Gray-headed junco	CSA	IMP, RIV, SB
<i>Lanius ludovicianus</i>	Loggerhead shrike	SSC	IMP, LA, RIV, SB
<i>Larus californicus</i>	California gull	CSA	IMP
<i>Melospiza melodia graminea</i>	Channel Island song sparrow	SSC	LA
<i>Myiarchus tyrannulus</i>	Brown-crested flycatcher	CSA	IMP, RIV, SB
<i>Nycticorax nycticorax</i>	Black-crowned night heron	CSA	RIV
<i>Oceanodroma homochroa</i>	Ashy storm-petrel	SSC	LA, VEN
<i>Oreothlypis luciae</i>	Lucy's warbler	SSC	IMP, SB
<i>Oreothlypis virginiae</i>	Virginia's warbler	CSA	SB
<i>Pandion haliaetus</i>	Osprey	CSA	OR
<i>Phalacrocorax auritus</i>	Double-crested cormorant	CSA	VEN
<i>Piranga flava</i>	Hepatic tanager	CSA	SB
<i>Piranga rubra</i>	Summer tanager	SSC	IMP, RIV, SB
<i>Plegadis chihi</i>	White-faced ibis	CSA	IMP, RIV, LA
<i>Polioptila melanura</i>	Black-tailed gnatcatcher	CSA	IMP, RIV, SB
<i>Progne subis</i>	Purple martin	SSC	RIV
<i>Pyrocephalus rubinus</i>	Vermilion flycatcher	SSC	IMP, RIV, SB
<i>Rynchops niger</i>	Black skimmer	SSC	IMP, OR, RIV
<i>Setophaga petechia</i>	Yellow warbler	SSC	IMP, LA, RIV, SB, VEN
<i>Setophaga petechia sonorana</i>	Sonoran yellow warbler	SSC	IMP, RIV, SB
<i>Spinus lawrencei</i>	Lawrence's goldfinch	CSA	RIV
<i>Toxostoma bendirei</i>	Bendire's thrasher	SSC	RIV, SB
<i>Toxostoma crissale</i>	Crissal thrasher	SSC	IMP, RIV, SB
<i>Toxostoma lecontei</i>	Le Conte's thrasher	SSC	IMP, RIV, LA, SB
<i>Vireo vicinior</i>	Gray vireo	SSC	SB
<i>Xanthocephalus xanthocephalus</i>	Yellow-headed blackbird	SSC	RIV
Mammals			
<i>Antrozous pallidus</i>	Pallid bat	SSC	IMP, RIV, LA, OR, SB, VEN
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	SSC	OR, RIV, VEN
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	SSC	LA, RIV, SB

Scientific Name	Common Name	Status	Counties Reported
<i>Chaetodipus fallax pallidus</i>	Pallid San Diego pocket mouse	SSC	IMP, RIV, LA, SB
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	SSC	OR, VEN
<i>Dipodomys merriami collinus</i>	Earthquake Merriam's kangaroo rat	CSA	RIV
<i>Euderma maculatum</i>	Spotted bat	SSC	LA, RIV, SB
<i>Eumops perotis californicus</i>	Western mastiff bat	SSC	IMP, LA, OR, VEN, RIV, SB
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	SSC	RIV, SB
<i>Lasionycteris noctivagans</i>	Silver-haired bat	CSA	LA, SB
<i>Lasiurus blossevillii</i>	Western red bat	SSC	LA, OR
<i>Lasiurus cinereus</i>	Hoary bat	CSA	IMP, RIV, LA, SB, VEN
<i>Lasiurus xanthinus</i>	Western yellow bat	SSC	IMP, LA, RIV, SB
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC	LA, RIV, SB
<i>Lontra canadensis sonora</i>	Southwestern river otter	SSC	SB
<i>Macrotus californicus</i>	California leaf-nosed bat	SSC	IMP, LA, VEN, RIV, SB
<i>Microtus californicus mohavensis</i>	Mohave river vole	SSC	SB
<i>Microtus californicus stephensi</i>	South coast marsh vole	SSC	LA, OR, VEN
<i>Myotis ciliolabrum</i>	Western small-footed myotis	CSA	IMP, LA, SB, VEN
<i>Myotis evotis</i>	Long-eared myotis	CSA	LA, SB
<i>Myotis occultus</i>	Arizona Myotis	SSC	IMP, RIV
<i>Myotis thysanodes</i>	Fringed myotis	CSA	LA, RIV, SB, VEN
<i>Myotis velifer</i>	Cave myotis	SSC	IMP, RIV, SB
<i>Myotis volans</i>	Long-legged myotis	CSA	SB, LA, VEN
<i>Myotis yumanensis</i>	Yuma myotis	CSA	IMP, LA, OR, RIV, SB
<i>Neotamias panamintinus acrus</i>	Kingston Mountain chipmunk	CSA	SB
<i>Neotamias speciosus callipeplus</i>	Mount Pinos chipmunk	CSA	VEN
<i>Neotamias speciosus speciosus</i>	Lodgepole chipmunk	CSA	LA, RIV, SB
<i>Neotoma albigula venusta</i>	Colorado Valley woodrat	CSA	IMP, RIV, SB
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	SSC	LA, OR, RIV, SB, VEN
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	SSC	IMP, LA, OR, RIV, SB
<i>Nyctinomops macrotis</i>	Big free-tailed bat	SSC	IMP, LA, OR, RIV
<i>Onychomys torridus ramona</i>	Southern grasshopper mouse	SSC	IMP, LA, RIV, SB
<i>Ovis canadensis nelsoni</i>	Desert bighorn sheep	CFP	IMP, RIV, SB, LA
<i>Perognathus alticolus alticolus</i>	White-eared pocket mouse	SSC	SB
<i>Perognathus alticolus inexpectatus</i>	Tehachapi pocket mouse	SSC	LA, VEN
<i>Perognathus inornatus</i>	San Joaquin Pocket Mouse	CSA	LA, VEN
<i>Perognathus longimembris bangsi</i>	Palm Springs pocket mouse	SSC	IMP, RIV
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	SSC	LA, RIV, SB
<i>Perognathus longimembris internationalis</i>	Jacumba pocket mouse	SSC	RIV
<i>Peromyscus maniculatus anacapae</i>	Anacapa Island deer mouse	SSC	VEN
<i>Puma concolor browni</i>	Yuma mountain lion	SSC	IMP

Scientific Name	Common Name	Status	Counties Reported
<i>Sigmodon arizonae plenus</i>	Colorado River cotton rat	SSC	RIV, SB
<i>Sigmodon hispidus eremicus</i>	Yuma hispid cotton rat	SSC	IMP
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	SSC	LA, OR, VEN
<i>Sorex ornatus willetti</i>	Santa Catalina shrew	SSC	LA
<i>Taxidea taxus</i>	American badger	SSC	IMP, RIV, LA, SB, VEN, OR
<i>Xerospermophilus tereticaudus chlorus</i>	Palm Springs round-tailed ground squirrel	SSC	RIV

Note:

SSC = California Species of Special Concern; CFP = California Fully Protected; CSA* = California Special Animal; SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

* California Special Animal (CSA) is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The Department of Fish and Wildlife considers the taxa on this list to be those of greatest conservation need. For those species with statuses identified by USFWS and/or CDFW, the status is noted. Those species included on the list due to identification by other governmental agencies and/or non-governmental conservation organizations are listed as CSA.

Source: California Department of Fish and Wildlife. 2018. CNDDDB QuickView Tool in BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Rare and Locally Important Plants

Rare plants and plants of local importance are recorded by the CNDDDB and the CNPS Rare Plant Inventory. In addition to the federally and state-listed plant species described above, there are 449 locally important plant species with historic records located within the SCAG region as shown in **Table 3.4-4, Rare and Locally Important Plants Reported in the SCAG Region**. As described below, the greatest number, representing more than 36 percent of 449 species recorded, were found in San Bernardino County, with 20 percent in Los Angeles and Riverside Counties, and less than 10 percent in Orange, Imperial and Ventura Counties.

**Table 3.4-4
Rare and Locally Important Plants Reported in the SCAG Region**

Scientific Name	Common Name	Status	Counties Where Reported
<i>Abronia villosa var. aurita</i>	chaparral sand-verbena	1B.1	IMP, OR, RIV, SB
<i>Abutilon parvulum</i>	dwarf abutilon	2B.3	SB
<i>Acanthoscyphus parishii var. abramsii</i>	Abrams' oxytheca	1B.2	VEN
<i>Acanthoscyphus parishii var. cienegensis</i>	Cienega Seca oxytheca	1B.3	SB
<i>Acleisanthes longiflora</i>	angel trumpets	2B.3	RIV
<i>Acleisanthes nevadensis</i>	desert wing-fruit	2B.1	SB
<i>Acmispon argyraeus var. multicaulis</i>	scrub lotus	1B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
<i>Acmispon argyraeus</i> var. <i>notitius</i>	Providence Mountains lotus	1B.3	SB
<i>Acmispon haydonii</i>	pygmy lotus	1B.3	IMP, RIV
<i>Ageratina herbacea</i>	desert ageratina	2B.3	SB
<i>Aliciella ripleyi</i>	Ripley's aliciella	2B.3	SB
<i>Aliciella triodon</i>	coyote gilia	2B.2	SB
<i>Allium atrorubens</i> var. <i>atrorubens</i>	Great Basin onion	2B.3	SB
<i>Allium howellii</i> var. <i>clokeyi</i>	Mt. Pinos onion	1B.3	LA, SB, VEN
<i>Allium marvinii</i>	Yucaipa onion	1B.2	RIV, SB
<i>Allium nevadense</i>	Nevada onion	2B.3	SB
<i>Almutaster pauciflorus</i>	alkali marsh aster	2B.2	RIV, SB
<i>Ambrosia monogyra</i>	singlewhorl burrobrush	2B.2	RIV, SB
<i>Androstaphium breviflorum</i>	small-flowered androstaphium	2B.2	RIV, SB
<i>Anomobryum julaceum</i>	slender silver moss	4.2	LA
<i>Antennaria marginata</i>	white-margined everlasting	2B.3	SB
<i>Aphanisma blitoides</i>	aphanisma	1B.2	LA, OR, VEN
<i>Arctomecon merriamii</i>	white bear poppy	2B.2	SB
<i>Arctostaphylos catalinae</i>	Santa Catalina Island manzanita	1B.2	LA
<i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	San Gabriel manzanita	1B.2	LA, SB
<i>Arctostaphylos rainbowensis</i>	Rainbow manzanita	1B.1	RIV
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	rock sandwort	2B.3	SB
<i>Argyroschisma limitanea</i> ssp. <i>limitanea</i>	southwestern false cloak-fern	2B.1	SB
<i>Asclepias nyctaginifolia</i>	Mojave milkweed	2B.1	SB
<i>Astragalus allochrous</i> var. <i>playanus</i>	playa milk-vetch	2B.2	SB
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	1B.2	RIV, SB
<i>Astragalus cimae</i> var. <i>cimae</i>	Cima milk-vetch	1B.2	SB
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' milk-vetch	1B.2	VEN
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	1B.1	SB
<i>Astragalus insularis</i> var. <i>harwoodii</i>	Harwood's milk-vetch	2B.2	IMP, RIV, SB
<i>Astragalus lentiginosus</i> var. <i>antonius</i>	San Antonio milk-vetch	1B.3	LA, SB
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk-vetch	1B.2	SB
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	1B.2	LA, RIV, SB
<i>Astragalus nevinii</i>	San Clemente Island milk-vetch	1B.2	LA
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's milk-vetch	1B.1	RIV

Scientific Name	Common Name	Status	Counties Where Reported
<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Lancaster milk-vetch	1B.1	LA, RIV
<i>Astragalus preussii</i> var. <i>preussii</i>	Preuss' milk-vetch	2B.1	SB
<i>Astragalus sabulorum</i>	gravel milk-vetch	2B.2	IMP, RIV
<i>Astragalus tidesstromii</i>	Tidestrom's milk-vetch	2B.2	SB
<i>Astrolepis cochisensis</i> ssp. <i>cochisensis</i>	scaly cloak fern	2B.3	SB
<i>Atriplex coulteri</i>	Coulter's saltbush	1B.2	LA, OR, SB, VEN
<i>Atriplex pacifica</i>	south coast saltscale	1B.2	LA, OR, VEN
<i>Atriplex parishii</i>	Parish's brittlescale	1B.1	LA, OR, RIV, SB
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	1B.2	LA, OR, RIV, VEN
<i>Ayenia compacta</i>	California ayenia	2B.3	IMP, RIV, SB
<i>Baccharis malibuensis</i>	Malibu baccharis	1B.1	LA, OR, VEN
<i>Bahia neomexicana</i>	many-flowered bahia	2B.3	SB
<i>Berberis fremontii</i>	Fremont barberry	2B.3	SB
<i>Berberis harrisoniana</i>	Kofa Mountain barberry	1B.2	SB
<i>Bergerocactus emoryi</i>	golden-spined cereus	2B.2	LA
<i>Blepharidachne kingii</i>	King's eyelash grass	2B.3	SB
<i>Boechera dispar</i>	pinyon rockcress	2B.3	RIV, SB
<i>Boechera johnstonii</i>	Johnston's rockcress	1B.2	RIV
<i>Boechera lincolnensis</i>	Lincoln rockcress	2B.3	RIV, SB
<i>Boechera parishii</i>	Parish's rockcress	1B.2	SB
<i>Boechera peirsonii</i>	San Bernardino rockcress	1B.2	SB
<i>Boechera shockleyi</i>	Shockley's rockcress	2B.2	SB
<i>Botrychium ascendens</i>	upswept moonwort	2B.3	SB
<i>Botrychium crenulatum</i>	scalloped moonwort	2B.2	LA, SB
<i>Bouteloua trifida</i>	three-awned grama	2B.3	SB
<i>Brodiaea kinkiensis</i>	San Clemente Island brodiaea	1B.2	LA
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	1B.1	RIV
<i>Brodiaea santarosae</i>	Santa Rosa Basalt brodiaea	1B.2	RIV
<i>Bursera microphylla</i>	little-leaf elephant tree	2B.3	IMP, RIV
<i>Calliandra eriophylla</i>	pink fairy-duster	2B.3	IMP, RIV
<i>Calochortus clavatus</i> var. <i>gracilis</i>	slender mariposa-lily	1B.2	LA, VEN
<i>Calochortus fimbriatus</i>	late-flowered mariposa-lily	1B.3	LA, VEN

Scientific Name	Common Name	Status	Counties Where Reported
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa-lily	1B.2	RIV
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	1B.2	LA, RIV, SB, VEN
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	4.2	LA, OR, RIV, SB, VEN
<i>Calochortus striatus</i>	alkali mariposa-lily	1B.2	LA, SB
<i>Calochortus weedii</i> var. <i>intermedius</i>	intermediate mariposa-lily	1B.2	LA, OR, RIV, SB
<i>Calyptridium pygmaeum</i>	pygmy pussypaws	1B.2	SB
<i>Calystegia felix</i>	lucky morning-glory	1B.1	LA, RIV, SB
<i>Calystegia peirsonii</i>	Peirson's morning-glory	4.2	LA
<i>Camissoniopsis guadalupensis</i> ssp. <i>clementina</i>	San Clemente Island evening-primrose	1B.2	LA
<i>Canbya candida</i>	white pygmy-poppy	4.2	LA, SB
<i>Carex comosa</i>	bristly sedge	2B.1	SB
<i>Carex occidentalis</i>	western sedge	2B.3	LA, RIV, SB
<i>Carnegiea gigantea</i>	saguaro	2B.2	IMP, SB
<i>Castela emoryi</i>	Emory's crucifixion-thorn	2B.2	IMP, RIV, SB
<i>Castilleja hololeuca</i>	island white-felted paintbrush	1B.2	VEN
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	1B.2	RIV, SB
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	1B.2	VEN
<i>Caulanthus simulans</i>	Payson's jewelflower	4.2	RIV
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	1B.1	LA, OR, VEN
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	1B.1	LA, RIV, SB
<i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>	Peirson's pincushion	1B.3	IMP
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	1B.1	LA, OR, VEN
<i>Chaenactis parishii</i>	Parish's chaenactis	1B.3	RIV
<i>Chenopodium littoreum</i>	coastal goosefoot	1B.2	LA
<i>Chloropyron tecapense</i>	Tecopa bird's-beak	1B.2	SB
<i>Chorizanthe blakleyi</i>	Blakley's spineflower	1B.3	VEN
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	1B.1	LA, RIV, SB
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	1B.2	OR, RIV
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	1B.2	RIV, SB
<i>Chylismia arenaria</i>	sand evening-primrose	2B.2	IMP, RIV, SB
<i>Cirsium arizonicum</i> var. <i>tenuisectum</i>	desert mountain thistle	1B.2	SB

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<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle	1B.2	LA
<i>Cladium californicum</i>	California saw-grass	2B.2	LA, RIV, SB
<i>Clarkia xantiana</i> ssp. <i>parviflora</i>	Kern Canyon clarkia	4.2	LA
<i>Claytonia lanceolata</i> var. <i>peirsonii</i>	Peirson's spring beauty	3.1	SB
<i>Clinopodium chandleri</i>	San Miguel savory	1B.2	OR, RIV
<i>Colubrina californica</i>	Las Animas colubrina	2B.3	IMP, RIV
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	1B.2	OR
<i>Constancea nevinii</i>	Nevin's woolly sunflower	1B.3	LA
<i>Cordylanthus parviflorus</i>	small-flowered bird's-beak	2B.3	SB
<i>Coryphantha alversonii</i>	Alverson's foxtail cactus	4.3	RIV, SB
<i>Coryphantha chlorantha</i>	desert pincushion	2B.1	SB
<i>Coryphantha vivipara</i> var. <i>rosea</i>	viviparous foxtail cactus	2B.2	SB
<i>Crossosoma californicum</i>	Catalina crossosoma	1B.2	LA
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	1B.2	LA, SB
<i>Cryptantha traskiae</i>	Trask's cryptantha	1B.1	LA, VEN
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	1B.2	LA, RIV
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	2B.2	LA, SB
<i>Cylindropuntia munzii</i>	Munz's cholla	1B.3	IMP, RIV
<i>Cymopterus deserticola</i>	desert cymopterus	1B.2	LA, SB
<i>Cymopterus gilmanii</i>	Gilman's cymopterus	2B.3	SB
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	2B.2	RIV, SB
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	dune larkspur	1B.2	VEN
<i>Delphinium scaposum</i>	bare-stem larkspur	2B.3	SB
<i>Delphinium umbracolorum</i>	umbrella larkspur	1B.3	VEN
<i>Delphinium variegatum</i> ssp. <i>thornei</i>	Thorne's royal larkspur	1B.1	LA
<i>Dendromecon harfordii</i> var. <i>rhamnoides</i>	south island bush-poppy	3.1	LA
<i>Dieteria canescens</i> var. <i>ziegleri</i>	Ziegler's aster	1B.2	RIV
<i>Digitaria californica</i> var. <i>californica</i>	Arizona cottontop	2B.3	IMP, SB
<i>Diplacus mohavensis</i>	Mojave monkeyflower	1B.2	SB
<i>Diplacus traskiae</i>	Santa Catalina Island monkeyflower	1A	LA
<i>Dissanthelium californicum</i>	California dissanthelium	1B.2	LA

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<i>Ditaxis claryana</i>	glandular ditaxis	2B.2	IMP, RIV, SB
<i>Ditaxis serrata</i> var. <i>californica</i>	California ditaxis	3.2	RIV
<i>Draba saxosa</i>	Southern California rock draba	1B.3	RIV
<i>Drymocallis cuneifolia</i> var. <i>cuneifolia</i>	wedgeleaf woodbeauty	1B.1	SB
<i>Drymocallis cuneifolia</i> var. <i>ewanii</i>	Ewan's woodbeauty	1B.3	LA
<i>Dryopteris filix-mas</i>	male fern	2B.3	SB
<i>Dudleya abramsii</i> ssp. <i>affinis</i>	San Bernardino Mountains dudleya	1B.2	SB
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	1B.1	LA, OR, VEN
<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	San Gabriel River dudleya	1B.2	LA
<i>Dudleya densiflora</i>	San Gabriel Mountains dudleya	1B.1	LA
<i>Dudleya multicaulis</i>	many-stemmed dudleya	1B.2	LA, OR, RIV, SB
<i>Dudleya virens</i> ssp. <i>hassei</i>	Catalina Island dudleya	1B.2	LA
<i>Dudleya virens</i> ssp. <i>insularis</i>	island green dudleya	1B.2	LA, VEN
<i>Dudleya virens</i> ssp. <i>virens</i>	bright green dudleya	1B.2	LA
<i>Dudleya viscida</i>	sticky dudleya	1B.2	OR, RIV
<i>Echinocereus engelmannii</i> var. <i>howei</i>	Howe's hedgehog cactus	1B.1	SB
<i>Elymus salina</i>	Salina Pass wild-rye	2B.3	SB
<i>Enneapogon desvauxii</i>	nine-awned pappus grass	2B.2	SB
<i>Eremogone congesta</i> var. <i>charlestonensis</i>	Charleston sandwort	1B.3	SB
<i>Eremothera boothii</i> ssp. <i>boothii</i>	Booth's evening-primrose	2B.3	RIV, SB
<i>Eremothera boothii</i> ssp. <i>intermedia</i>	Booth's hairy evening-primrose	2B.3	SB
<i>Eriastrum harwoodii</i>	Harwood's eriastrum	1B.2	IMP, RIV, SB
<i>Eriastrum rosamondense</i>	Rosamond eriastrum	1B.1	LA
<i>Erigeron oxyphyllus</i>	wand-like fleabane daisy	2B.3	SB
<i>Erigeron uncialis</i> var. <i>uncialis</i>	limestone daisy	1B.2	SB
<i>Erigeron utahensis</i>	Utah daisy	2B.3	SB
<i>Eriodictyon angustifolium</i>	narrow-leaved yerba santa	2B.3	SB
<i>Eriogonum bifurcatum</i>	forked buckwheat	1B.2	SB
<i>Eriogonum contiguum</i>	Reveal's buckwheat	2B.3	SB
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	1B.1	RIV, SB
<i>Eriogonum giganteum</i> var. <i>formosum</i>	San Clemente Island buckwheat	1B.2	LA

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<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	southern alpine buckwheat	1B.3	LA, SB, VEN
<i>Eriogonum microthecum</i> var. <i>johnstonii</i>	Johnston's buckwheat	1B.3	LA, SB
<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	Bear Lake buckwheat	1B.1	SB
<i>Eriogonum umbellatum</i> var. <i>juniporinum</i>	juniper sulphur-flowered buckwheat	2B.3	SB
<i>Erioneuron pilosum</i>	hairy erioneuron	2B.3	SB
<i>Eriophyllum mohavense</i>	Barstow woolly sunflower	1B.2	LA, SB
<i>Erysimum insulare</i>	island wallflower	1B.3	VEN
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	1B.2	SB
<i>Erythranthe purpurea</i>	little purple monkeyflower	1B.2	SB
<i>Eschscholzia minutiflora</i> ssp. <i>twisselmannii</i>	Red Rock poppy	1B.2	SB
<i>Eucnide rupestris</i>	annual rock-nettle	2B.2	IMP
<i>Euphorbia abramsiana</i>	Abrams' spurge	2B.2	IMP, RIV, SB
<i>Euphorbia arizonica</i>	Arizona spurge	2B.3	IMP, RIV
<i>Euphorbia exstipulata</i> var. <i>exstipulata</i>	Clark Mountain spurge	2B.1	SB
<i>Euphorbia jaegeri</i>	Orocopia Mountains spurge	1B.1	RIV, SB
<i>Euphorbia misera</i>	cliff spurge	2B.2	LA, OR, RIV
<i>Euphorbia parryi</i>	Parry's spurge	2B.3	SB
<i>Euphorbia platysperma</i>	flat-seeded spurge	1B.2	IMP, RIV, SB
<i>Fimbristylis thermalis</i>	hot springs fimbristylis	2B.2	LA, SB
<i>Frasera albomarginata</i> var. <i>albomarginata</i>	desert green-gentian	2B.2	SB
<i>Frasera albomarginata</i> var. <i>induta</i>	Clark Mountain green-gentian	1B.2	SB
<i>Fritillaria ojaiensis</i>	Ojai fritillary	1B.2	VEN
<i>Funastrum crispum</i>	wavyleaf twinvine	2B.2	RIV
<i>Galium angustifolium</i> ssp. <i>jacinticum</i>	San Jacinto Mountains bedstraw	1B.3	RIV
<i>Galium californicum</i> ssp. <i>primum</i>	Alvin Meadow bedstraw	1B.2	RIV, SB
<i>Galium catalinense</i> ssp. <i>catalinense</i>	Santa Catalina Island bedstraw	1B.3	LA
<i>Galium grande</i>	San Gabriel bedstraw	1B.2	LA
<i>Galium hilendiae</i> ssp. <i>kingstonense</i>	Kingston Mountains bedstraw	1B.3	SB
<i>Galium proliferum</i>	desert bedstraw	2B.2	SB
<i>Galium wrightii</i>	Wright's bedstraw	2B.3	SB

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<i>Gambelia speciosa</i>	showy island snapdragon	1B.2	LA
<i>Gentiana fremontii</i>	Fremont's gentian	2B.3	SB
<i>Geothallus tuberosus</i>	Campbell's liverwort	1B.1	RIV
<i>Geraea viscida</i>	sticky geraea	2B.2	IMP
<i>Gilia leptantha ssp. leptantha</i>	San Bernardino gilia	1B.3	SB
<i>Githopsis diffusa ssp. fillicaulis</i>	Mission Canyon bluecup	3.1	RIV
<i>Glossopetalon pungens</i>	pungent glossopetalon	1B.2	SB
<i>Graphis saxorum</i>	Baja rock lichen	3	LA
<i>Grimmia vaginulata</i>	vaginulate grimmia	1B.1	SB
<i>Grusonia parishii</i>	Parish's club-cholla	2B.2	RIV, SB
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	4.2	LA, OR, RIV
<i>Hazardia cana</i>	San Clemente Island hazardia	1B.2	LA
<i>Hedeoma drummondii</i>	Drummond's false pennyroyal	2B.2	SB
<i>Helianthus inexpectatus</i>	Newhall sunflower	1B.1	LA
<i>Helianthus nuttallii ssp. parishii</i>	Los Angeles sunflower	1A	LA, OR, SB
<i>Herissantia crispa</i>	curly herissantia	2B.3	IMP
<i>Hesperocyparis forbesii</i>	Tecate cypress	1B.1	OR, RIV
<i>Heuchera hirsutissima</i>	shaggy-haired alumroot	1B.3	RIV
<i>Heuchera maxima</i>	island alumroot	1B.2	VEN
<i>Heuchera parishii</i>	Parish's alumroot	1B.3	RIV, SB
<i>Horkelia cuneata var. puberula</i>	mesa horkelia	1B.1	LA, OR, RIV, SB, VEN
<i>Horkelia wilderae</i>	Barton Flats horkelia	1B.1	SB
<i>Hulsea californica</i>	San Diego sunflower	1B.3	RIV
<i>Hulsea mexicana</i>	Mexican hulsea	2B.3	IMP
<i>Hulsea vestita ssp. pygmaea</i>	pygmy hulsea	1B.3	SB
<i>Hymenopappus filifolius var. eriopodus</i>	hairy-podded fine-leaf hymenopappus	2B.3	SB
<i>Hymenoxys odorata</i>	bitter hymenoxys	2B.1	IMP, RIV, SB
<i>Imperata brevifolia</i>	California satintail	2B.1	IMP, LA, OR, RIV, SB, VEN
<i>Ipomopsis effusa</i>	Baja California ipomopsis	2B.1	IMP
<i>Ipomopsis tenuifolia</i>	slender-leaved ipomopsis	2B.3	IMP
<i>Isocoma menziesii var. decumbens</i>	decumbent goldenbush	1B.2	LA, OR, VEN
<i>Ivesia argyrocoma var. argyrocoma</i>	silver-haired ivesia	1B.2	SB
<i>Ivesia jaegeri</i>	Jaeger's ivesia	1B.3	SB
<i>Ivesia patellifera</i>	Kingston Mountains ivesia	1B.3	SB
<i>Jaffueliobryum raui</i>	Rau's jaffueliobryum moss	2B.3	RIV, SB

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<i>Jaffueliobryum wrightii</i>	Wright's jaffueliobryum moss	2B.3	RIV, SB
<i>Juncus interior</i>	inland rush	2B.2	SB
<i>Juncus luciensis</i>	Santa Lucia dwarf rush	1B.2	RIV
<i>Juncus nodosus</i>	knotted rush	2B.3	SB
<i>Koeberlinia spinosa</i> var. <i>tenuispina</i>	slender-spined all thorn	2B.2	IMP, RIV
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	1B.1	LA, OR, RIV, SB, VEN
<i>Lavatera assurgentiflora</i> ssp. <i>assurgentiflora</i>	island mallow	1B.1	VEN
<i>Lavatera assurgentiflora</i> ssp. <i>glabra</i>	southern island mallow	1B.1	LA
<i>Layia heterotricha</i>	pale-yellow layia	1B.1	VEN
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	1B.2	OR, RIV
<i>Lepechinia rossii</i>	Ross' pitcher sage	1B.2	LA, VEN
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	4.3	LA, OR, RIV, SB, VEN
<i>Leptosiphon floribundus</i> ssp. <i>hallii</i>	Santa Rosa Mountains leptosiphon	1B.3	RIV
<i>Leptosiphon pygmaeus</i> ssp. <i>pygmaeus</i>	pygmy leptosiphon	1B.2	LA
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	2B.2	LA, SB
<i>Lilium parryi</i>	lemon lily	1B.2	LA, RIV, SB
<i>Linanthus bernardinus</i>	Pioneertown linanthus	1B.2	SB
<i>Linanthus concinnus</i>	San Gabriel linanthus	1B.2	LA, SB
<i>Linanthus jaegeri</i>	San Jacinto linanthus	1B.2	RIV
<i>Linanthus killipii</i>	Baldwin Lake linanthus	1B.2	SB
<i>Linanthus maculatus</i> ssp. <i>emaculatus</i>	Jacumba Mountains linanthus	1B.1	IMP
<i>Linanthus maculatus</i> ssp. <i>maculatus</i>	Little San Bernardino Mtns. linanthus	1B.2	RIV, SB
<i>Linanthus orcuttii</i>	Orcutt's linanthus	1B.3	RIV, SB
<i>Linum puberulum</i>	plains flax	2B.3	SB
<i>Lithospermum incisum</i>	plains stoneseed	2B.3	SB
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	2B.2	LA, SB
<i>Lomatium insulare</i>	San Nicolas Island lomatium	1B.2	LA, VEN
<i>Lonicera subspicata</i> var. <i>subspicata</i>	Santa Barbara honeysuckle	1B.2	LA
<i>Lupinus albifrons</i> var. <i>medius</i>	Mountain Springs bush lupine	1B.3	IMP
<i>Lupinus guadalupensis</i>	Guadalupe Island lupine	4.2	LA
<i>Lupinus paynei</i>	Payne's bush lupine	1B.1	LA, VEN
<i>Lupinus peirsonii</i>	Peirson's lupine	1B.3	LA
<i>Lycium brevipes</i> var. <i>hassei</i>	Santa Catalina Island desert-thorn	3.1	LA, OR
<i>Lycium exsertum</i>	Arizona desert-thorn	2B.1	SB
<i>Lycium parishii</i>	Parish's desert-thorn	2B.3	IMP, SB
<i>Lycium verrucosum</i>	San Nicolas Island desert-thorn	1A	VEN
<i>Lyonothamnus floribundus</i> ssp. <i>aspleniifolius</i>	Santa Cruz Island ironwood	1B.2	LA
<i>Lyonothamnus floribundus</i> ssp. <i>floribundus</i>	Santa Catalina Island ironwood	1B.2	LA
<i>Malacothamnus davidsonii</i>	Davidson's bush-mallow	1B.2	LA, VEN
<i>Malacothamnus parishii</i>	Parish's bush-mallow	1A	SB
<i>Malacothrix foliosa</i> ssp. <i>crispifolia</i>	wavy-leaved malacothrix	1B.2	VEN

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<i>Malacothrix junakii</i>	Junak's malacothrix	1B.1	VEN
<i>Malacothrix similis</i>	Mexican malacothrix	2A	VEN
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	white bog adder's-mouth	2B.1	RIV, SB
<i>Malperia tenuis</i>	brown turbans	2B.3	IMP
<i>Mammillaria grahamii</i> var. <i>grahamii</i>	Graham fishhook cactus	2B.2	SB
<i>Marina orcuttii</i> var. <i>orcuttii</i>	California marina	1B.3	RIV
<i>Matelea parvifolia</i>	spear-leaf matelea	2B.3	IMP, RIV, SB
<i>Maurandella antirrhiniflora</i>	violet twining snapdragon	2B.3	SB
<i>Meesia uliginosa</i>	broad-nerved hump moss	2B.2	RIV
<i>Menodora scabra</i> var. <i>scabra</i>	rough menodora	2B.3	SB
<i>Menodora spinescens</i> var. <i>mohavensis</i>	Mojave menodora	1B.2	SB
<i>Mentzelia hirsutissima</i>	hairy stickleaf	2B.3	IMP
<i>Mentzelia polita</i>	polished blazing star	1B.2	SB
<i>Mentzelia pterosperma</i>	wing-seed blazing star	2B.2	SB
<i>Mentzelia puberula</i>	Darlington's blazing star	2B.2	IMP, RIV, SB
<i>Mentzelia tricuspis</i>	spiny-hair blazing star	2B.1	IMP, RIV, SB
<i>Mentzelia tridentata</i>	creamy blazing star	1B.3	SB
<i>Mielichhoferia shevockii</i>	Shevock's copper moss	1B.2	RIV
<i>Mirabilis coccinea</i>	red four o'clock	2B.3	SB
<i>Monarda pectinata</i>	plains bee balm	2B.3	SB
<i>Monardella australis</i> ssp. <i>jokerstii</i>	Jokerst's monardella	1B.1	RIV, SB
<i>Monardella boydii</i>	Boyd's monardella	1B.2	SB
<i>Monardella eremicola</i>	Clark Mountain monardella	1B.3	SB
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	white-veined monardella	1B.3	LA, VEN
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	intermediate monardella	1B.3	OR, RIV
<i>Monardella linoides</i> ssp. <i>oblonga</i>	Tehachapi monardella	1B.3	LA, VEN
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	1B.3	LA, OR, RIV, SB
<i>Monardella nana</i> ssp. <i>leptosiphon</i>	San Felipe monardella	1B.2	RIV
<i>Monardella pringlei</i>	Pringle's monardella	1A	RIV, SB
<i>Monardella robisonii</i>	Robison's monardella	1B.3	RIV, SB
<i>Monardella sinuata</i> ssp. <i>gerryi</i>	Gerry's curly-leaved monardella	1B.1	VEN
<i>Muhlenbergia alopecuroides</i>	wolftail	2B.2	SB
<i>Muhlenbergia appressa</i>	appressed muhly	2B.2	LA, RIV, SB
<i>Muhlenbergia arsenei</i>	tough muhly	2B.3	SB
<i>Muhlenbergia californica</i>	California muhly	4.3	LA, SB
<i>Muhlenbergia fragilis</i>	delicate muhly	2B.3	SB
<i>Muhlenbergia pauciflora</i>	few-flowered muhly	2B.3	SB
<i>Munroa squarrosa</i>	false buffalo-grass	2B.2	SB
<i>Munzothamnus blairii</i>	Blair's munzothamnus	1B.2	LA
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	3.1	RIV
<i>Myriopteris wootonii</i>	Wooton's lace fern	2B.3	SB
<i>Nama demissa</i> var. <i>covillei</i>	Coville's purple mat	1B.3	SB
<i>Nama dichotoma</i> var. <i>dichotoma</i>	forked purple mat	2B.3	SB

Scientific Name	Common Name	Status	Counties Where Reported
<i>Nama stenocarpa</i>	mud nama	2B.2	IMP, LA, OR, RIV
<i>Navarretia ojaiensis</i>	Ojai navarretia	1B.1	LA, VEN
<i>Navarretia peninsularis</i>	Baja navarretia	1B.2	LA, SB, VEN
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	1B.1	LA, OR, RIV, SB
<i>Navarretia setiloba</i>	Piute Mountains navarretia	1B.1	LA
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	1B.2	LA, OR
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	2B.2	IMP, RIV, SB
<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i>	Robbins' nemacladus	1B.2	LA, VEN
<i>Nolina cismontana</i>	chaparral nolina	1B.2	LA, OR, RIV, VEN
<i>Oenothera cavernae</i>	cave evening-primrose	2B.1	SB
<i>Oenothera longissima</i>	long-stem evening-primrose	2B.2	SB
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	1B.2	LA, SB
<i>Opuntia wigginsii</i>	Wiggins' cholla	3.3	IMP, SB
<i>Opuntia xcurvispina</i>	curved-spine beavertail	2B.2	SB
<i>Oreonana vestita</i>	woolly mountain-parsley	1B.3	LA, SB
<i>Orobancha parishii</i> ssp. <i>brachyloba</i>	short-lobed broomrape	4.2	LA, VEN
<i>Orobancha valida</i> ssp. <i>valida</i>	Rock Creek broomrape	1B.2	LA, SB, VEN
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	rock-loving oxytrope	2B.3	LA, SB
<i>Packera bernardina</i>	San Bernardino ragwort	1B.2	SB
<i>Palafoxia arida</i> var. <i>gigantea</i>	giant spanish-needle	1B.3	IMP
<i>Panicum hirticaule</i> ssp. <i>hirticaule</i>	roughstalk witch grass	2B.1	IMP, RIV, SB
<i>Parnassia cirrata</i> var. <i>cirrata</i>	San Bernardino grass-of-Parnassus	1B.3	LA, SB
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	1B.2	SB
<i>Pellaea truncata</i>	spiny cliff-brake	2B.3	SB
<i>Penstemon albomarginatus</i>	white-margined beardtongue	1B.1	SB
<i>Penstemon bicolor</i> ssp. <i>roseus</i>	rosy two-toned beardtongue	1B.1	SB
<i>Penstemon calcareus</i>	limestone beardtongue	1B.3	SB
<i>Penstemon californicus</i>	California beardtongue	1B.2	OR, RIV
<i>Penstemon fruticiformis</i> var. <i>amargosae</i>	Amargosa beardtongue	1B.3	SB
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	2B.2	IMP, RIV, SB
<i>Penstemon stephensii</i>	Stephens' beardtongue	1B.3	SB
<i>Penstemon thompsoniae</i>	Thompson's beardtongue	2B.3	SB
<i>Penstemon utahensis</i>	Utah beardtongue	2B.3	SB
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's pentachaeta	1B.1	OR
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	2B.2	SB
<i>Petalonyx linearis</i>	narrow-leaf sandpaper-plant	2B.3	IMP, RIV, SB
<i>Petalonyx thurberi</i> ssp. <i>gilmanii</i>	Death Valley sandpaper-plant	1B.3	SB
<i>Phacelia anelsonii</i>	Aven Nelson's phacelia	2B.3	SB
<i>Phacelia barnebyana</i>	Barneby's phacelia	2B.3	SB
<i>Phacelia coerulea</i>	sky-blue phacelia	2B.3	SB
<i>Phacelia floribunda</i>	many-flowered phacelia	1B.2	LA
<i>Phacelia keckii</i>	Santiago Peak phacelia	1B.3	OR, RIV

Scientific Name	Common Name	Status	Counties Where Reported
<i>Phacelia mustelina</i>	Death Valley round-leaved phacelia	1B.3	SB
<i>Phacelia parishii</i>	Parish's phacelia	1B.1	SB
<i>Phacelia perityloides</i> var. <i>jaegeri</i>	Jaeger's phacelia	1B.3	SB
<i>Phacelia pulchella</i> var. <i>gooddingii</i>	Goodding's phacelia	2B.2	SB
<i>Phacelia stellaris</i>	Brand's star phacelia	1B.1	LA, OR, RIV, SB
<i>Phaseolus filiformis</i>	slender-stem bean	2B.1	RIV
<i>Phlox dolichantha</i>	Big Bear Valley phlox	1B.2	SB
<i>Pholisma sonorae</i>	sand food	1B.2	IMP
<i>Pholistoma auritum</i> var. <i>arizonicum</i>	Arizona pholistoma	2B.3	IMP, SB
<i>Physalis lobata</i>	lobed ground-cherry	2B.3	SB
<i>Physaria chambersii</i>	Chambers' physaria	2B.3	SB
<i>Pilostyles thurberi</i>	Thurber's pilostyles	4.3	IMP
<i>Plagiobothrys parishii</i>	Parish's popcornflower	1B.1	LA, SB
<i>Poliomintha incana</i>	frosted mint	2A	SB
<i>Polygala acanthoclada</i>	thorny milkwort	2B.3	RIV, SB
<i>Polygala intermontana</i>	intermountain milkwort	2B.1	SB
<i>Potentilla multijuga</i>	Ballona cinquefoil	1A	LA
<i>Potentilla rimicola</i>	cliff cinquefoil	2B.3	RIV
<i>Prunus eremophila</i>	Mojave Desert plum	1B.2	SB
<i>Pseudognaphalium leucocephalum</i>	white rabbit-tobacco	2B.2	LA, OR, RIV, SB, VEN
<i>Pseudorontium cyathiferum</i>	Deep Canyon snapdragon	2B.3	RIV
<i>Psoralea fremontii</i> var. <i>attenuatus</i>	narrow-leaved psoralea	2B.3	SB
<i>Puccinellia parishii</i>	Parish's alkali grass	1B.1	SB
<i>Puccinellia simplex</i>	California alkali grass	1B.2	LA, SB
<i>Pyrrocoma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocoma	1B.2	SB
<i>Quercus dumosa</i>	Nuttall's scrub oak	1B.1	LA, OR, VEN
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	1A	LA, SB
<i>Ribes viburnifolium</i>	Santa Catalina Island currant	1B.2	LA
<i>Robinia neomexicana</i>	New Mexico locust	2B.3	SB
<i>Rosa woodsii</i> var. <i>glabrata</i>	Cushenbury rose	1B.1	SB
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	SB, VEN
<i>Saltugilia latimeri</i>	Latimer's woodland-gilia	1B.2	RIV, SB
<i>Salvia greatae</i>	Orocopia sage	1B.3	IMP, RIV
<i>Sanvitalia abertii</i>	Abert's sanvitalia	2B.2	SB
<i>Schoenus nigricans</i>	black bog-rush	2B.2	SB
<i>Sclerocactus johnsonii</i>	Johnson's bee-hive cactus	2B.2	SB
<i>Scleropogon brevifolius</i>	burro grass	2B.3	SB
<i>Scrophularia villosa</i>	Santa Catalina figwort	1B.2	LA
<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	southern mountains skullcap	1B.2	LA, RIV, SB
<i>Selaginella eremophila</i>	desert spike-moss	2B.2	IMP, RIV
<i>Senecio aphanactis</i>	chaparral ragwort	2B.2	LA, OR, RIV, SB, VEN
<i>Senna covesii</i>	Cove's cassia	2B.2	IMP, RIV, SB
<i>Sibaropsis hammittii</i>	Hammitt's clay-cress	1B.2	RIV

Scientific Name	Common Name	Status	Counties Where Reported
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	1B.2	SB
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	2B.2	LA, OR, RIV, SB, VEN
<i>Sidothea emarginata</i>	white-margined oxytheca	1B.3	RIV
<i>Silene krantzii</i>	Krantz's catchfly	1B.2	SB
<i>Sisyrinchium longipes</i>	timberland blue-eyed grass	2B.2	SB
<i>Solanum wallacei</i>	Wallace's nightshade	1B.1	LA
<i>Spermolepis gigantea</i>	desert scaleseed	2B.1	RIV
<i>Spermolepis lateriflora</i>	western bristly scaleseed	2A	LA
<i>Sphaeralcea rusbyi</i> var. <i>eremicola</i>	Rusby's desert-mallow	1B.2	RIV, SB
<i>Sphaerocarpos drewei</i>	bottle liverwort	1B.1	RIV
<i>Sphenopholis obtusata</i>	prairie wedge grass	2B.2	RIV, SB
<i>Stemodia durantifolia</i>	purple stemodia	2B.1	RIV
<i>Stipa arida</i>	Mormon needle grass	2B.3	SB
<i>Stipa divaricata</i>	small-flowered rice grass	2B.3	SB
<i>Streptanthus bernardinus</i>	Laguna Mountains jewelflower	4.3	RIV, SB
<i>Streptanthus campestris</i>	southern jewelflower	1B.3	IMP, LA, RIV, SB, VEN
<i>Stylocline masonii</i>	Mason's neststraw	1B.1	LA
<i>Stylocline sonorensis</i>	mesquite neststraw	2A	RIV
<i>Suaeda esteroa</i>	estuary seablite	1B.2	LA, OR, VEN
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	1B.2	IMP, LA, OR, RIV, SB
<i>Symphyotrichum greatae</i>	Greata's aster	1B.3	LA, SB, VEN
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	1B.2	OR, RIV
<i>Teucrium cubense</i> ssp. <i>depressum</i>	dwarf germander	2B.2	IMP, RIV
<i>Teucrium glandulosum</i>	desert germander	2B.3	SB
<i>Texasporium sancti-jacobi</i>	woven-spored lichen	3	LA, RIV, VEN
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	2B.2	LA, RIV, SB
<i>Thysanocarpus rigidus</i>	rigid fringepod	1B.2	LA, RIV, SB
<i>Tidestromia eliassoniana</i>	Eliasson's woolly tidestromia	2B.2	IMP, SB
<i>Tortella alpicola</i>	alpine crisp-moss	2B.3	SB
<i>Tortula californica</i>	California screw moss	1B.2	LA, RIV, VEN
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	2B.1	RIV
<i>Trichostema austromontanum</i> ssp. <i>compactum</i>	Hidden Lake bluecurls	1B.1	RIV
<i>Tripterocalyx micranthus</i>	small-flowered sand-verbena	2B.2	SB
<i>Triteleia clementina</i>	San Clemente Island triteleia	1B.2	LA
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	1B.3	LA, SB, VEN
<i>Wislizenia refracta</i> ssp. <i>palmeri</i>	Palmer's jackass clover	2B.2	RIV
<i>Wislizenia refracta</i> ssp. <i>refracta</i>	jackass-clover	2B.2	RIV, SB
<i>Woodsia plummerae</i>	Plummer's woodsia	2B.3	SB
<i>Xylorhiza cognata</i>	Mecca-aster	1B.2	RIV
<i>Xylorhiza orcuttii</i>	Orcutt's woody-aster	1B.2	IMP
<i>Astragalus traskiae</i>	Trask's milk-vetch	1B.2	VEN
<i>Castilleja gleasoni</i>	Mt. Gleason paintbrush	1B.2	LA

Scientific Name	Common Name	Status	Counties Where Reported
<i>Croton wigginsii</i>	Wiggins' croton	2B.2	IMP
<i>Deinandra minthornii</i>	Santa Susana tarplant	1B.2	LA, VEN
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>	Cuyamaca larkspur	1B.2	RIV
<i>Eriogonum crocatum</i>	conejo buckwheat	1B.2	VEN
<i>Galium angustifolium</i> ssp. <i>borregoense</i>	Borrego bedstraw	1B.3	IMP
<i>Ivesia callida</i>	Tahquitz ivesia	1B.3	RIV
<i>Packera ganderi</i>	Gander's ragwort	1B.2	RIV
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	1B.2	SB

Note:

California Native Plant Society: California Rare Plant Rank (CRPR) 1A = Plants Presumed Extinct in California; CRPR: 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants About Which We Need More Information; 4 = Plants of Limited Distribution. SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

Source:

California Department of Fish and Wildlife. 2018. CNDDDB QuickView Tool in BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed January 14, 2019.

Riparian and State Sensitive Plant Communities

The six counties within the SCAG region contain nearly 23 million acres of “open space” combined. These vacant lands include the region’s national forests, state parks, military installations, other public lands, and various private holdings. Much of the open space in the region has been left in its natural state, however many non-native species have transformed what was once native habitat. The CNDDDB identifies approximately 318,000 acres as containing state-sensitive plant communities, those identified as critically imperiled, or vulnerable to extirpation. In addition, approximately 190,700 acres of riparian habitats have been included in the database. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW and improvements within or in the vicinity of these habitats would require compliance with Section 1600 of the State FGC under which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Historically, special-status natural communities have been recorded by the CNDDDB, which reported 45 special-status natural communities within the SCAG region, as shown in **Table 3.4-5, Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region**. Unfortunately, this CNDDDB information was last recorded in 1993, as the Natural Heritage Division of the CDFW is currently in the process of classifying and mapping vegetation in the state. Although there is no current comprehensive picture of state-sensitive plant communities and riparian habitat, it is highly likely that such communities exist within the SCAG region. Therefore, it is important that individual projects consider sensitive communities and carefully examine project sites on a case-by-case basis.

**Table 3.4-5
Riparian Habitat and State Sensitive Plant Communities Reported in the SCAG Region**

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Active Desert Dunes	S2.2	IMP	2,233
Alkali Seep	S2.1	SB	5
Amargosa River	SNR	SB	560
Arizonan Woodland	S1.2	SB	337
California Walnut Woodland	S2.1	LA, OR, SB, VEN	16,540
Canyon Live Oak Ravine Forest	S3.3	LA, OR, RIV, SB, VEN	5,535
Cismontane Alkali Marsh	S1.1	VEN	31
Coastal and Valley Freshwater Marsh	S2.1	RIV, SB, VEN	551
Crucifixion Thorn Woodland	S1.2	IMP, SB	96
Desert Fan Palm Oasis Woodland	S3.2	IMP, RIV, SB	43,404
Island Cherry Forest	S2.1	LA	1,796
Island Ironwood Forest	S2.1	LA	2,319
Mainland Cherry Forest	S1.1	LA	73
Maritime Succulent Scrub	S1.1	LA, VEN	70
Mesquite Bosque	S2.1	IMP, RIV, SB	11,282
Mojave Mixed Steppe	S2.2	SB	18
Mojave Riparian Forest	S1.1	LA, SB	3,295
Mojave Yucca Scrub and Steppe	S3.2	SB	88
Open Engelmann Oak Woodland	S2.2	LA	870
Pebble Plains	S1.1	SB	3,836
Riversidian Alluvial Fan Sage Scrub	S1.1	LA, OR, RIV, SB	27,827
Sonoran Cottonwood Willow Riparian Forest	S1.1	IMP, RIV	1,822
Southern California Arroyo Chub/Santa Ana Sucker Stream	SNR	LA, OR, RIV, SB	5,837
Southern California Coastal Lagoon	SNR	LA, VEN	20
Southern California Steelhead Stream	SNR	LA, VEN	3,025
Southern California Threespine Stickleback Stream	SNR	LA, SB, VEN	2,194
Southern Coast Live Oak Riparian Forest	S4	LA, OR, RIV, SB, VEN	22,981
Southern Coastal Bluff Scrub	S1.1	LA, VEN	1,029
Southern Coastal Salt Marsh	S2.1	LA, OR, VEN	4,961
Southern Cottonwood Willow Riparian Forest	S3.2	LA, OR, RIV, SB, VEN	18,390
Southern Dune Scrub	S1.1	LA, OR, VEN	9,483
Southern Foredunes	S2.1	LA, OR, VEN	1,203
Southern Interior Basalt Flow Vernal Pool	S1.2	RIV	587
Southern Interior Cypress Forest	S2.1	OR, RIV	2,978
Southern Mixed Riparian Forest	S2.1	LA, OR, RIV, SB, VEN	4,447
Southern Riparian Forest	S4	LA, RIV, SB, VEN	554

Community Name	State Sensitivity Rank	Counties Where Reported	Acres Reported in SCAG Region
Southern Riparian Scrub	S3.2	LA, OR, RIV, SB, VEN	11,378
Southern Sycamore Alder Riparian Woodland	S4	LA, OR, RIV, SB, VEN	61,959
Southern Willow Scrub	S2.1	LA, OR, RIV, SB, VEN	5,697
Stabilized and Partially Stabilized Desert Dunes	S3.2	IMP	2,233
Transmontane Alkali Marsh	S2.1	IMP, SB	243
Valley Needlegrass Grassland	S3.1	LA, OR, RIV, VEN	16,806
Valley Oak Woodland	S2.1	LA, VEN	12,400
Walnut Forest	S1.1	LA, VEN	402
Wildflower Field	S2.2	LA	6,592

Note:

S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors **Unranked** — State conservation status not yet assessed.

SB = San Bernardino County; LA = Los Angeles County; RIV = Riverside County; VEN = Ventura County; OR = Orange County; IMP = Imperial County.

Source:

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>, accessed July 8, 2019.

Since 1993 CDFW and CNPS, have been classifying vegetation types using the new state standards, as outlined in the Manual of California Vegetation, updated in the second edition of the Manual.¹² These new state standards are being utilized in the classification of Sensitive Natural Communities throughout California that are currently being evaluated using NatureServe’s Heritage Methodology, the same system used to assign state rarity ranks for sensitive plant communities in the CNDDDB.¹³ Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities that should be addressed during the CEQA process.

As of 2018, about half of California has been mapped and classified according to this standard; much of southern California has not yet been classified. **Table 3.4-6** provides the Vegetation Classification and Mapping Program’s current list of vegetation Alliances with State Rarity Ranks of S1-S3 that occur within the USDA Ecological Sections (Southern California Coast, Southern California Mountains and Valleys, Mojave Desert, Colorado Desert, Sonoran Desert) found in the SCAG region. Some of these sections

¹² Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California NativePlantSociety, Sacramento, CA.

¹³ California Department of Fish and Wildlife. 2019. Natural Communities. Sacramento, CA. Available online at: <https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities>, accessed June 28, 2019

overlap portions of counties outside of the SCAG region (primarily portions of San Diego and Santa Barbara Counties). Although this data is incomplete, it is highly likely that these or additional Sensitive Natural Communities may occur in the footprint of future projects in the SCAG region. Therefore, it is important that individual projects evaluate Sensitive Natural Communities in their analyses.

**Table 3.4-6
Sensitive Natural Communities within the SCAG Region**

Alliance Scientific Name	Common Name	State Rarity
<i>Abies concolor</i> Dry	Dry White Fir forest	S3
<i>Abronia latifolia</i> - <i>Ambrosia chamissonis</i>	Dune mat	S3
<i>Achnatherum hymenoides</i>	Indian rice grass grassland	S1.2
<i>Achnatherum speciosum</i>	Desert needlegrass grassland	S2.2
<i>Adenostoma fasciculatum</i> - <i>Salvia apiana</i>	Chamise - white sage chaparral	S3
<i>Agave deserti</i>	Desert agave scrub	S3.2
<i>Allenrolfea occidentalis</i>	Iodine bush scrub	S3.2
<i>Alopecurus geniculatus</i>	Water foxtail meadows	S3?
<i>Amphipappus fremontii</i> - <i>Salvia funerea</i>	Fremont's chaffbush - woolly sage scrub	S3
<i>Anemopsis californica</i> - <i>Helianthus nuttallii</i> - <i>Solidago spectabilis</i>	Yerba mansa - Nuttall's sunflower - Nevada goldenrod alkaline wet meadows	S2
<i>Arbutus menziesii</i>	Madrone forest	S3.2
<i>Arctostaphylos (crustacea, tomentosa)</i>	Brittle leaf - woolly leaf manzanita chaparral	S3
<i>Arctostaphylos pungens</i> - <i>Arctostaphylos pringlei</i>	Pointleaf manzanita - pink-bract manzanita chaparral	S3
<i>Arctostaphylos (purissima, rudis)</i>	Burton Mesa chaparral	S1.2
<i>Argentina egedii</i>	Pacific silverweed marshes	S2
<i>Aristida purpurea</i>	Purple three-awn meadows	S3?
<i>Artemisia nova</i>	Black sagebrush scrub	S3.2
<i>Artemisia rothrockii</i>	Rothrock's sagebrush	S3
<i>Arthrocnemum subterminale</i>	Parish's glasswort patches	S2
<i>Atriplex parryi</i>	Parry's saltbush scrub	S3
<i>Baccharis emoryi</i> - <i>Baccharis sergiloides</i>	Emory's and Broom baccharis scrub	S3
<i>Betula occidentalis</i>	Water birch thicket	S2.2
<i>Bolboschoenus maritimus</i>	Salt marsh bulrush marshes	S3
<i>Bromus carinatus</i> - <i>Elymus glaucus</i>	California brome - blue wildrye prairie	S3
<i>Bursera microphylla</i>	Elephant tree stands	S1.2
<i>Calocedrus decurrens</i>	Incense cedar forest	S3.2
<i>Carex douglasii</i>	Douglas's sedge meadows	S2?
<i>Carex heteroneura</i>	Different-nerve sedge patches	S3?
<i>Carex integra</i>	Small-fruited sedge meadows	S2?

Alliance Scientific Name	Common Name	State Rarity
<i>Carex luzulina</i>	Woodland sedge fens	S2?
<i>Carex (pansa, praegracilis)</i>	Sand dune sedge swaths	S3?
<i>Carnegiea gigantea</i> - <i>Parkinsonia microphylla</i> - <i>Prosopis velutina</i>	Saguaro - foothill palo verde - velvet mesquite desert scrub	S2.2
<i>Castela emoryi</i>	Crucifixion thorn stands	S1.1
<i>Ceanothus greggii</i>	Cup leaf ceanothus chaparral	S3
<i>Ceanothus (oliganthus, tomentosus)</i>	Hairy leaf - woolly leaf ceanothus chaparral	S3
<i>Ceanothus papillosus</i>	Wart leaf ceanothus chaparral	S3
<i>Ceanothus verrucosus</i>	Wart-stemmed ceanothus chaparral	S2
<i>Centromadia (pungens)</i>	Tar plant fields	S2
<i>Chilopsis linearis</i> - <i>Psoralethamnus spinosus</i>	Desert-willow - smoketree wash woodland	S3
<i>Chrysolepis sempervirens</i>	Bush chinquapin chaparral	S3.3
<i>Coreopsis gigantea</i>	Giant coreopsis scrub	S3
<i>Cressa truxillensis</i> - <i>Distichlis spicata</i>	Alkali weed - salt grass playas and sinks	S2
<i>Cylindropuntia bigelovii</i>	Teddy bear cholla patches	S3
<i>Deinandra clementina</i> - <i>Eriogonum giganteum</i>	Island tar plant - Saint Catherine's lace scrub	S2
<i>Deinandra fasciculata</i>	Clustered tarweed fields	S2
<i>Dicoria canescens</i> - <i>Abronia villosa</i> - <i>Panicum urvilleanum</i>	Mojave-Sonoran desert dunes	S3.2
<i>Diplacus aurantiacus</i>	Bush monkeyflower scrub	S3?
<i>Dudleya greenei</i> - <i>Dudleya</i> spp. Succulent Scrub	Greene's live-forever - live-forever species succulent scrub	S1
<i>Encelia (actonii, virginensis)</i> - <i>Viguiera reticulata</i>	Acton's and Virgin River brittle brush - net-veined goldeneye scrub	S3
<i>Encelia californica</i> - <i>Eriogonum cinereum</i>	California brittle bush - Ashy buckwheat scrub	S3
<i>Ephedra funerea</i>	Death Valley joint fir scrub	S3
<i>Ericameria palmeri</i>	Palmer's goldenbush scrub	S3?
<i>Ericameria paniculata</i>	Black-stem rabbitbrush scrub	S3
<i>Eriodictyon crassifolium</i>	Thick leaf yerba santa scrub	S3
<i>Eriogonum arborescens</i> - <i>Eriogonum grande</i>	Island Buckwheat scrub	S3
<i>Eriogonum wrightii</i> - <i>Eriogonum heermanni</i> - <i>Buddleja utahensis</i>	Wright's buckwheat - Heermann's buckwheat - Utah butterfly- bush scrub	S3
<i>Fallugia paradoxa</i>	Apache plume scrub	S3
<i>Frankenia salina</i>	Alkali heath marsh	S3
<i>Grindelia (camporum, stricta)</i>	Gum plant patches	S2
<i>Gutierrezia sarothrae</i> - <i>Gutierrezia microcephala</i>	Snakeweed scrub	S3
<i>Hazardia squarrosa</i>	Sawtooth golden bush scrub	S3
<i>Hesperocyparis forbesii</i>	Tecate cypress stands	S2.2
<i>Hesperocyparis sargentii</i>	Sargent cypress woodland	S3.2
<i>Hesperocyparis stephensonii</i>	Cuyamaca cypress stands	S1

Alliance Scientific Name	Common Name	State Rarity
<i>Hordeum brachyantherum</i>	Meadow barley patches	S2
<i>Isocoma menziesii</i>	Menzies's golden bush scrub	S3
<i>Juglans californica</i>	California walnut groves	S3.2
<i>Juncus (oxymeris, xiphioides)</i>	Iris-leaf rush seeps	S2?
<i>Juniperus osteosperma</i>	Utah juniper woodland	S3.2
<i>Keckiella antirrhinoides</i>	Bush penstemon scrub	S3
<i>Koeberlinia spinosa</i>	Crown-of-thorns stands	S1.1
<i>Krascheninnikovia lanata</i>	Winterfat scrubland	S3
<i>Lepidospartum squamatum</i>	Scale broom scrub	S3
<i>Leymus cinereus - Leymus triticoides</i>	Ashy ryegrass - creeping ryegrass turfs	S3
<i>Leymus condensatus</i>	Giant wild rye grassland	S3
<i>Leymus mollis</i>	Sea lyme grass patches	S2
<i>Lupinus chamissonis - Ericameria ericoides</i>	Silver dune lupine - mock heather scrub	S3
<i>Lycium californicum</i>	California desert-thorn scrub	S3
<i>Menodora spinescens</i>	Spiny menodora scrub	S3
<i>Monolopia (lanceolata) - Coreopsis (calliopsidea)</i>	Monolopia - leafy-stemmed tickseed fields	S3
<i>Muhlenbergia rigens</i>	Deer grass beds	S2?
<i>Nolina (bigelovii, parryi)</i>	Nolina scrub	S2.2
<i>Opuntia littoralis - Opuntia oricola - Cylindropuntia prolifera</i>	Coast prickly pear scrub	S3
<i>Pinus edulis</i>	Two-needle pinyon stands	S2?
<i>Pinus flexilis</i>	Limber pine woodland	S3.2
<i>Pinus muricata - Pinus radiata</i>	Bishop pine - Monterey pine forest	S3.2
<i>Pinus quadrifolia</i>	Parry pinyon woodland	S2
<i>Pinus torreyana</i>	Torrey pine woodland	S1.2
<i>Platanus racemosa</i>	California sycamore woodlands	S3
<i>Pleuraphis jamesii</i>	James's galleta shrub-steppe	S2.2
<i>Pleuraphis rigida</i>	Big galleta shrub-steppe	S2.2
<i>Pluchea sericea</i>	Arrow weed thickets	S3.3
<i>Poa secunda</i>	Curly blue grass grassland	S3?
<i>Populus fremontii</i>	Fremont cottonwood forest	S3.2
<i>Populus tremuloides</i>	Aspen groves	S3.2
<i>Populus trichocarpa</i>	Black cottonwood forest	S3
<i>Prosopis glandulosa - Prosopis velutina - Prosopis pubescens</i>	Mesquite thickets	S3
<i>Prunus fremontii</i>	Desert apricot scrub	S3
<i>Prunus virginiana</i>	Choke cherry thickets	S2?
<i>Pseudotsuga macrocarpa</i>	Bigcone Douglas fir forest	S3.2
<i>Purshia stansburiana</i>	Stansbury cliff rose scrub	S3.2
<i>Purshia tridentata</i>	Bitter brush scrub	S3

Alliance Scientific Name	Common Name	State Rarity
<i>Quercus chrysolepis</i> (shrub)	Canyon live oak chaparral	S3
<i>Quercus dumosa</i> - <i>Quercus pacifica</i>	Coastal sage and Island scrub oak chaparral	S3
<i>Quercus engelmannii</i>	Engelmann oak woodland	S3
<i>Quercus lobata</i>	Valley oak woodland	S3
<i>Quercus palmeri</i>	Palmer oak chaparral	S2?
<i>Quercus tomentella</i> - <i>Lyonothamnus floribundus</i>	Island live oak - Catalina ironwood woodland	S3
<i>Quercus turbinella</i>	Sonoran live oak scrub	S1.3
<i>Rhus integrifolia</i>	Lemonade berry scrub	S3
<i>Rhus trilobata</i> - <i>Crataegus rivularis</i> - <i>Forestiera pubescens</i>	Basket bush - river hawthorn - desert olive patches	S3.2?
<i>Ribes quercetorum</i>	Oak gooseberry thickets	S2?
<i>Rosa californica</i>	California rose briar patches	S3
<i>Ruppia (cirrhosa, maritima)</i>	Ditch-grass or widgeon-grass mats	S2
<i>Salix gooddingii</i>	Black willow thickets	S3
<i>Salix laevigata</i>	Red willow thickets	S3
<i>Salix lucida</i>	Shining willow groves	S3.2
<i>Salvia apiana</i>	White sage scrub	S3
<i>Sambucus nigra</i>	Blue elderberry stands	S3
<i>Sarcocornia pacifica</i> (<i>Salicornia depressa</i>)	Pickleweed mats	S3
<i>Schoenoplectus (acutus, californicus)</i>	Hardstem and California bulrush marshes	S3
<i>Schoenoplectus americanus</i>	American bulrush marsh	S3.2
<i>Selaginella bigelovii</i>	Bushy spikemoss mats	S3
<i>Sesuvium verrucosum</i>	Western sea-purslane marshes	S2.2?
<i>Simmondsia chinensis</i>	Jojoba scrub	S3?
<i>Spartina foliosa</i>	California cordgrass marsh	S3.2
<i>Sporobolus airoides</i> - <i>Muhlenbergia asperifolia</i> - <i>Spartina gracilis</i>	Alkali sacaton - scratchgrass - alkali cordgrass alkaline wet meadow	S2
<i>Stuckenia (pectinata)</i> - <i>Potamogeton spp.</i>	Pondweed mats	S3?
<i>Suaeda moquinii</i>	Bush seepweed scrub	S3
<i>Tetracoccus hallii</i>	Hallâ€™s shrubby-spurge patches	S1.1
<i>Umbellularia californica</i>	California bay forest	S3
<i>Venegasia carpesioides</i>	Canyon sunflower scrub	S3
<i>Vitis arizonica</i> - <i>Vitis girdiana</i>	Wild grape shrubland	S3
<i>Washingtonia filifera</i>	California fan palm oasis	S3.2
<i>Xylococcus bicolor</i>	Mission manzanita chaparral	S3

Alliance Scientific Name	Common Name	State Rarity
<i>Yucca brevifolia</i>	Joshua tree woodland	S3.2
<i>Ziziphus obtusifolia</i>	Graythorn patches	S2?

S1 Critically Imperiled — Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 Imperiled — Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3 Vulnerable — Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Entries marked with “?” indicate preliminary or more information required

Source: CNPS. 2019. A Manual of California Vegetation On-line. Available at: <http://vegetation.cnps.org/search> Accessed June 25, 2019

Federally Protected Wetlands and Waterways

Current National Wetlands Inventory maps¹⁴ and USGS National Hydrography Dataset of surface waters (rivers, streams, ephemeral streams, canals, lakes, ponds, and other hydrologic features) for the SCAG region were reviewed to identify the extent of potential wetlands and waterways subject to protection under Section 404 of the CWA and coastal areas subject to Section 10 of the Rivers and Harbors Act. Wetlands and waterways potentially subject to the jurisdiction of the USACE, CDFW, and RWQCB’s were determined to be present within each of the six counties in the SCAG region (Table 3.4-7, **Federally Protected Wetlands and Waterways Reported in the SCAG Region**, and Table 3.4-8, **Federally Protected Surface Water Features in the SCAG Region**).

**Table 3.4-7
Federally Protected Wetlands and Waterways Reported in the SCAG Region**

Wetland Type	National Wetlands Inventory (Acres)
Imperial County	
Freshwater Emergent Wetland	6,214
Freshwater Forested/Shrub Wetland	20,756
Freshwater Pond	6,982
Lake	200,180
Riverine	46,562
Total	280,693
Los Angeles County	
Estuarine and Marine Deepwater	3,421
Estuarine and Marine Wetland	839
Freshwater Emergent Wetland	2,503

¹⁴ U.S. Fish and Wildlife Service. *National Wetlands Inventory Map*. Available at: <https://www.fws.gov/wetlands/data/Mapper.html>, accessed January 14, 2019.

Wetland Type	National Wetlands Inventory (Acres)
Freshwater Forested/Shrub Wetland	11,874
Freshwater Pond	7,644
Lake	21,526
Riverine	28,995
Total	76,803
Orange County	
Estuarine and Marine Deepwater	2,015
Estuarine and Marine Wetland	1,556
Freshwater Emergent Wetland	988
Freshwater Forested/Shrub Wetland	4,124
Freshwater Pond	1,414
Lake	2,323
Riverine	5,777
Total	18,196
Riverside County	
Freshwater Emergent Wetland	8,225
Freshwater Forested/Shrub Wetland	14,594
Freshwater Pond	4,061
Lake	68,854
Riverine	68,676
Total	164,410
San Bernardino County	
Freshwater Emergent Wetland	4,696
Freshwater Forested/Shrub Wetland	10,233
Freshwater Pond	7,750
Lake	250,702
Riverine	188,525
Total	461,906
Ventura County	
Estuarine and Marine Deepwater	1,001
Estuarine and Marine Wetland	2,307
Freshwater Emergent Wetland	2,736
Freshwater Forested/Shrub Wetland	10,713
Freshwater Pond	2,173
Lake	4,136
Riverine	12,518
Total	35,584

Source: U.S. Fish and Wildlife Service. National Wetlands Inventory. Available online at: <https://www.fws.gov/wetlands/data/Mapper.html>, accessed July 17, 2019.

**Table 3.4-8
Federally Protected Surface Water Features in the SCAG Region**

County	Miles of Hydrologic Drainages
Imperial County	11,081.5
Los Angeles	13,788.7
Orange	3,008.9
Riverside	22,609.6
San Bernardino	45,369.2
Ventura	8,642.5
Total	104,500.4

Source: U.S. Geological Survey. National Hydrography Dataset. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products>, accessed January 15, 2019.

Wildlife Movement Corridors

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.¹⁵

The presence of viable and sustainable wildlife corridor networks may also be critical to the survival of some species as habitat conditions and landscapes are altered due to climate change. Across the SCAG region's diverse habitat types, many native plant species are at risk because of from climate change effects.¹⁶ These effects include rising sea levels, increased temperatures, decreased water availability and/or altered precipitation patterns, and invasive species infestations. Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for survival. These impacts on plants change ecosystems and the wildlife they support. Maintaining existing connected habitat linkages and establishing new wildlife crossings is essential to the survival of California's diverse native species and unique ecosystems in the face of a

¹⁵ Ventura County Resource Management Agency (VCRMA). 2018. Habitat Connectivity and Wildlife Movement Corridors. Available online at: <https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors>, accessed January 15, 2019.

¹⁶ Native Plants and Climate Change. 2019. California Deptmnt of Fish and Wildlife. Available at: <https://www.wildlife.ca.gov/Conservation/Plants/Climate>

changing climate. As habitat conditions change in response to altered climate conditions, wildlife require an increased diversity of opportunities for movement and migration to a wide variety of landscapes.¹⁷

The California Department of Transportation (Caltrans) and CDFW commissioned the California Essential Habitat Connectivity Project to assess essential habitat connectivity across the state.¹⁸ As shown in **Figure 3.4-3, Essential Habitat Connectivity within the SCAG Region**,¹⁹ a large portion of the SCAG region includes many natural landscape blocks, accounting for nearly 12 million acres that support high native wildlife biodiversity with a significant wildlife connectivity network (**Figure 3.4-3; Table 3.4-9, Natural Landscape Blocks by County in the SCAG Region**).²⁰ These large and intact blocks are connected by over 4.5 million acres of corridors that are highly (Class 4 and 5) permeable (i.e., beneficial) to wildlife movement (**Table 3.4-10**). A large portion of these landscape blocks and essential connectivity areas are spread through eastern Imperial, Riverside, and San Bernardino Counties. Ventura County has the relatively largest proportion of landscape blocks and essential connectivity areas by county acreage. Large portions of the mountainous parts of Los Angeles County provide a critical linkage between habitat blocks from Riverside and Imperial County to the east and Ventura County to the west. Orange County has limited essential connectivity habitat and habitat blocks, located mostly in the eastern end of the county, but these provide connectivity to San Diego County to the south.

**Table 3.4-9
Natural Landscape Blocks by County in the SCAG Region**

County	Area (acres)
Imperial	970,349
Los Angeles	798,033
Orange	135,339
Riverside	2,511,657
San Bernardino	6,802,998
Ventura	701,830
Grand Total	11,920,206

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

- ¹⁷ California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fish and Wildlife. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>. Accessed October 30, 2019
- ¹⁸ California Department of Fish and Wildlife. 2019. BIOS Connectivity Viewer. Available online at: <https://apps.wildlife.ca.gov/bios/> accessed July 8, 2019.
- ¹⁹ California Department of Fish and Wildlife. *BIOS*. Available online at: <https://apps.wildlife.ca.gov/bios/>
- ²⁰ Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: <https://map.dfg.ca.gov/metadata/ds0621.html?5.77.14>, accessed July 9, 2019.

Table 3.4-10
Essential Connectivity Areas by County in the SCAG Region (acres)

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Total
Class 5 - Most Permeable	394,207	111,066	-	557,892	1,242,680	212,235	2,518,081
Class 4	273,106	97,594	-	415,568	1,032,493	192,853	2,011,616
Class 3	240,108	90,913	-	359,093	836,737	164,840	1,691,691
Class 2	235,033	99,768	-	371,260	873,269	98,451	1,677,781
Class 1 - Least Permeable	187,009	103,135	1,382	351,703	880,552	74,106	1,597,888
Total	1,329,463	502,477	1,382	2,055,517	4,865,731	742,486	9,497,056

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

Barriers to wildlife movement exist throughout the SCAG region, including large areas of urban development and multilane freeways that cut off regional movement for migratory and resident species alike. These barriers can affect all species from large mammals to small insects and can lead to significant degradation of ecosystem function and plant community composition. Conservation, protection, and enhancement of these intact Natural Landscape Blocks and Essential Connectivity Areas should be considered in project development to maintain or improve the viability of wildlife movement networks' and natural community stability.

A notable example of wildlife corridor enhancement is the wildlife crossing planned through the State Route 101 Freeway at Liberty Canyon Road in Agoura Hills. The development of the Liberty Canyon Wildlife Crossing will help facilitate mountain lion and other terrestrial wildlife movement through a major regional freeway, opening a corridor and reducing the risk of motor vehicle collisions with wildlife. Managed by California Department of Transportation (Caltrans), the Liberty Canyon Wildlife Crossing is a regional partnership with many public and private entities, including the City of Agoura Hills, City of Thousand Oaks, Mountains Recreation and Conservation Authority, the Santa Monica Mountains Conservancy, the National Park Service, and the Resource Conservation District of the Santa Monica Mountains. This project is planned to break ground in 2021 and be completed in 2023²¹. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure that will rank as the largest wildlife crossing in the world. This crossing will reconnect currently fragmented ecosystems for the benefit of mountain lions and other wildlife.

²¹ National Wildlife Federation/SaveLACougars. 2019. Available online at: <https://savelacougars.org/> accessed November 22, 2019.

In addition to these essential corridors, major rivers, creeks, and streams often serve as nursery sites for fish, amphibian, and invertebrate species. These important features can facilitate movement between landscape blocks. Over 182,000 acres of these riparian wildlife connections have been mapped in the SCAG region (see **Table 3.4-11** and **Figure 3.4-3**).

Table 3.4-11
Potential Riparian Connections in the SCAG Region

County	Riparian Connections (Acres)
Imperial	33,546
Los Angeles	34,015
Orange	5,774
Riverside	21,526
San Bernardino	56,144
Ventura	31,359
Total	212,364

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

Habitat Conservation Plans and Natural Community Conservation Plans

A Habitat Conservation Plan (HCP) is a planning document required as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how the impacts will be minimized and mitigated, and how the HCP is to be funded. A Natural Community Conservation Plan (NCCP) is defined by CDFW as a plan for the conservation of natural communities that identifies and provides for the regional or area-wide protection and perpetuation of plants, animals, and their habitats. As described by **Table 3.4-12, HCPs and NCCPs in the SCAG Region**, below, more than 20 million acres of open space within the SCAG region are currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Data from CDFW and USFWS show 27 plans with durations of 16–80 years providing conservation efforts nearly three million acres in the SCAG region. As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance and practices, and preserving important wildlife linkages.

**Table 3.4-12
HCPs and NCCPs in the SCAG Region**

HCP/NCCP	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura*
AgCon Oro Grande North Mine Pit					X	
Angelus Block					X	
Assessment District 161				X		
California Department of Corrections	X	X		X	X	
Statewide Electrified Fence Project						
Central Coastal NCCP/HCP			X			
City of Rancho Palos Verdes NCCP		X				
Coachella Valley Fringe-Toed Lizard				X		
Coachella Valley MSHCP				X		
Copper Mountain College HCP					X	
Cushenbury San & Gravel					X	
El Sobrante Landfill HCP				X		
High Desert Power Project					X	
Imperial Irrigation District NCCP/HCP	X					
Joshua Tree Campground					X	
Lower Colorado River Multiple Species Habitat Conservation Plan (MSHCP)	X			X		
Newhall Farms HCP		X				X
Orange County Central/Coastal NCCP/HCP			X			
Orange County Southern Subregion HCP			X			
Orange County Transportation Authority NCCP/HCP			X			
Palos Verdes Peninsula NCCP/HCP		X				
San Diego County Water Authority NCCP/HCP				X		
San Diego Gas and Electric Subregional			X			
Shell Oil Company/Metropolitan Water District of Southern California HCP			X			
Town of Apple Valley MSHCP					X	
West Valley HCP					X	
Western Riverside County MSHCP				X		

Source:

California Department of Fish and Wildlife. 2017. Summary of Natural Community Conservation Plans (NCCP). October. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>, accessed March 19, 2019.

US Fish and Wildlife Service. 2017. ECOS Environmental Conservation Online System. Available online at <https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP>. Accessed July 8, 2019.

3.4.2 REGULATORY FRAMEWORK

3.4.2.1 Federal

Federal Endangered Species Act

The USFWS, under the auspices of the Federal Endangered Species Act of 1973 (FESA), manages and protects species listed as Endangered or Threatened. The USFWS can issue a permit for incidental “take” of listed species that can result from otherwise lawful activities. Take, under the federal definition, means to harass, harm (including habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. The permitting process is used to determine if a project would jeopardize the continued existence of listed species and the mitigation measures that would be required to avoid or minimize impacts to listed species. Procedures for obtaining a permit for incidental take are set forth in Section 7 (for federal properties or where federal actions are involved) and Section 10 (for non-federal actions) of the FESA.²² Candidate species do not have the full protection of the FESA; however, the USFWS advises applicants that candidate species could be elevated to listed species at any time.

USFWS administers the FESA, which designates critical habitat for endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation’s fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems.

Section 10 of Rivers and Harbors Appropriation Act of 1899

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 United States Code [USC] §§ 401, 403, 407). Authorization is also needed for structures built near

²² U.S. Fish and Wildlife Service. 1973. *Endangered Species Act of 1973*. Available online at: <https://www.fws.gov/endangered/esa-library/pdf/ESAall.pdf>, accessed August 26, 2019.

navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.²³

Migratory Bird Treaty Act of 1918 (MBTA)

The MBTA (16 USC §§ 703–712) makes it unlawful to pursue, capture, kill, or possess any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union. Similar to the federal ESA, the MBTA authorizes the Secretary of the Interior to issue permits for incidental take.²⁴

Fish and Wildlife Coordination Act, 1956

The objective of the Fish and Wildlife Coordination Act of 1956 (FWCA; 16 USC §§ 661–666c) is to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. Under the FWCA, Federal agencies shall consider the effect that water-related projects would have on fish and wildlife resources, prevent loss or damage and develop and improve fish and wildlife resources. The FWCA requires consultation with USFWS and state fish and wildlife agencies to develop measures to protect, develop and improve fish and wildlife resources.²⁵

Section 401 of the Federal Clean Water Act (CWA) (1972)

Section 401 of the federal CWA (33 USC § 1251) is administered by the State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs). Section 401 requires that prior to any federal permit or license, any activity, including river or stream crossings during road, pipeline, or transmission line construction, which may result in discharges into waters of the United States, must be certified by the applicable RWQCB. This certification ensures that the proposed activity does not violate federal water quality standards.²⁶ The SCAG region lies within the jurisdiction of five RWQCBs:

- Colorado River Basin

²³ U.S. Environmental Protection Agency. 2019. *Section 10 of the Rivers and Harbors Appropriation Act of 1899*. Available online at: <https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>, accessed August 26, 2019.

²⁴ U.S. Fish and Wildlife Services. *Migratory Bird Treaty Act*. Available online at: <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>, accessed August 26, 2019.

²⁵ U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Services*. Available online at: <https://www.fws.gov/laws/lawsdigest/FWACT.HTML>, accessed August 26, 2019.

²⁶ U.S. Environmental Protection Agency. *Clean Water Act Section 401: State Certification of Water Quality*. Available online at: <https://www.epa.gov/cwa-401/clean-water-act-section-401-state-certification-water-quality>, accessed August 26, 2019.

- Lahontan
- Los Angeles
- Santa Ana
- San Diego

Section 404 of the Federal CWA

Section 404 of the federal CWA (33 USC § 1251), which is administered by the USACOE, regulates the discharge of dredged and fill material into waters of the United States. USACOE has established a series of nationwide permits that authorize certain activities in waters of the United States, provided that a proposed activity can demonstrate compliance with standard conditions. In general, USACOE requires an individual permit for an activity that will affect an area equal to or in excess of 0.3 acre of waters of the United States. Projects that result in impacts to less than 0.3 acre of waters of the United States can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACOE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.3 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.²⁷

Marine Mammal Protection Act of 1972 (MMPA)

The MMPA (16 USC § 31) protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the United States. The MMPA prohibits the “take” of marine mammals without a permit, with certain exceptions. The definition of “take” under the MMPA is consistent with that of the federal ESA. The MMPA is managed by the federal government. The National Marine Fisheries Service is responsible for managing cetaceans, otariids, and phocids. The USFWS is responsible for managing odobenids, sirenians, otters, and polar bears.²⁸

Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA)

The MPRSA (Public Law 92-532), also known as the Ocean Dumping Act, prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine

²⁷ U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: <https://www.epa.gov/cwa-404/overview-clean-water-act-section-404>, accessed August 26, 2019.

²⁸ U.S. Fish and Wildlife Service. *Marine Mammal Protection Act*. Available online at: <https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/marine-mammal-protection-act.html>, accessed August 26, 2019.

environment. Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the USACOE, using EPA's environmental criteria and subject to EPA's concurrence.²⁹

Emergency Wetlands Resources Act of 1986 (EWRA)

The objective of the EWRA (16 USC §§ 3901–3932), dated November 10, 1986, is to promote the conservation of wetlands and help fulfill obligations contained in various migratory bird treaties. Under the EWRA, the USFWS must provide leadership and take action to:³⁰

- Intensify cooperative efforts to manage and conserve wetlands
- Intensify efforts to protect wetlands

Bald and Golden Eagle Protection Act (BGEPA)

The purpose of the federal BGEPA (16 USC §§ 668–668c, as amended) that is administered by the USFWS protects bald and golden eagles, their nests, eggs, and parts.³¹ The BGEPA states that no person shall take, possess, sell, purchase, barter, offer for sale, purchase or barter, transport, export, or import any bald or golden eagle alive or dead, or any part, nest, or egg without a valid permit to do so. The BGEPA prohibits the “take” of bald and golden eagles unless pursuant to regulations. *Take* is defined by the BGEPA as an action “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.”

In addition to immediate impacts, this definition covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles were not present. Permits are issued to Native Americans to possess eagle feathers for religious purposes, and salvaged eagle carcasses can be sent to the National Eagle Repository in Colorado, where they are redistributed to Native Americans. Although the bald eagle was removed from the Endangered Species List in June 2007, it is still federally protected under the BGEPA and MBTA described above. In addition, the *National Bald Eagle Management Guidelines* were published in conjunction with delisting by the USFWS in May 2007 to provide provisions to continue to protect bald eagles from harmful actions and impacts.

²⁹ U.S. Environmental Protection Agency. *Summary of the Marine Protection, Research, and Sanctuaries Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act>, accessed August 26, 2019.

³⁰ U.S. Fish and Wildlife Services. *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, Emergency Wetlands Resources Act*. Available online at: <https://www.fws.gov/laws/lawsdigest/EMWET.HTML>, accessed August 26, 2019.

³¹ U.S. Fish and Wildlife Service (USFWS). 2007. *National Bald Eagle Management Guidelines*. May. Available at: <https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>, accessed January 23, 2019.

Under the BGEPA, a final rule was published in May 2008 in the *Federal Register* that proposed authorization for take of bald eagles for those with existing authorization under the federal ESA where the bald eagle is covered in an HCP or the golden eagle is covered as a non-listed species.³² The final rule also established a new permit category to provide expedited permits to entities authorized to take bald eagles through Section 7 Incidental Take Permits.

Wetlands – Executive Order Number 11990

Executive Order (EO) 11990 was issued in May 1977, as a furtherance of the National Environmental Policy Act (NEPA) providing protection of wetlands. Pursuant to the EO, all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies, such as the Federal Highway Administration (FHWA), cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.³³

Invasive Species – Executive Order Number 13112

This EO was signed by President Clinton on February 3, 1999. It serves to prevent activities that may promote the introduction and spread of invasive species. The order states that federal agencies whose actions “may affect the status of invasive species shall ... use relevant programs and authorities to ... prevent the introduction of invasive species ... detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner...monitor invasive species populations accurately and reliably ... provide for restoration of native species and habitat conditions in ecosystems that have been invaded.” In order to implement EO 13112, the FHWA has established guidance to prevent the introduction and spread, and promote the control, of invasive plant species on highway rights-of-way. Under EO 13112, federal agencies are prohibited from authorizing, funding, or carrying out actions that are likely to promote or result in the introduction or spread of invasive species unless all feasible measures to minimize the impacts have been analyzed and considered.³⁴

³² Federal Register. 2008. *Notices*. 73(98): 29075–84. May.

³³ U.S. Environmental Protection Agency. *Protection of Wetlands (Executive Order 11990)*. Available online at: <https://www.epa.gov/cwa-404/protection-wetlands-executive-order-11990>, accessed August 26, 2019.

³⁴ Federal Register. 1999. *Executive Order 13112 of February 3, 1999*. Available online at: <https://www.govinfo.gov/content/pkg/FR-1999-02-08/pdf/99-3184.pdf>, accessed August 26, 2019.

National Environmental Policy Act

The National Environmental Policy Act (NEPA) is implemented by regulations included in the Code of Federal Regulations (40 CFR § 1500 *et seq.*), which require careful consideration of the harmful effects of federal actions or plans, including projects that receive federal funds, if they may have a significant adverse effect on the environment. NEPA mandates that all federal agencies carry out their regulations, policies, and programs in accordance with NEPA's policies of environmental protection. NEPA encourages the protection of all aspects of the environment and requires federal agencies to utilize a systematic, interdisciplinary approach to agency decision-making that will ensure the integrated use of natural sciences such as geology. While NEPA compliance is not required for the Plan, NEPA compliance will be required for transportation improvement projects that will be financed using federal funds. Some development projects (such as low-income housing) also use federal funds and are subject to NEPA. The regulations also require projects requiring NEPA review to seek to avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The Council on Environmental Quality (CEQ) oversees NEPA, and the US EPA carries out administrative aspects of the NEPA process. NEPA mandates that the federal government shall give appropriate consideration to potential adverse environmental impacts of their major actions, including impacts to biological resources.³⁵

3.4.2.2 State

Section 1600 of the State Fish and Game Code, Lake or Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California are subject to the regulatory authority of the CDFW pursuant to Sections 1600 through 1603 of the Code and require preparation of a Streambed Alteration Agreement. Pursuant to the Code, a stream is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that support or have supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial waterways valuable to fish and wildlife are subject to CDFW jurisdiction. CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events.³⁶

³⁵ U.S. Environmental Protection Agency. *Summary of the National Environmental Policy Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-national-environmental-policy-act>, accessed August 26, 2019.

³⁶ California Department of Fish and Wildlife. *Lake and Streambed Alteration Program*. Available online at: <https://www.wildlife.ca.gov/Conservation/LSA>, accessed August 26, 2019.

Section 2080 of the State Fish and Game Code, California Endangered Species Act (California ESA)

The California ESA prohibits the take of listed species except as otherwise provided in state law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions undertaken by the lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat. CDFW is authorized to enter into Memoranda of Understanding (MOUs) with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess listed species for scientific, educational, or management purposes.³⁷

Pursuant to Section 2081 of the Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, any state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or MOUs if:³⁸

- The take is incidental to an otherwise lawful activity.
- The impacts of the authorized take are minimized and fully mitigated.
- The permit is consistent with any regulations adopted pursuant to any recovery plan for the species.
- The applicant ensures adequate funding to implement the measures required by CDFW.

CDFW shall make this determination based on available scientific information and shall include consideration of the ability of the species to survive and reproduce.

Sections 2800 through 2840 of the State Fish and Game Code, Natural Community Conservation Planning Act

Section 2800 through 2840 of the State Fish and Game Code provides a mechanism to conserve natural communities on an ecosystem level while accommodating compatible land use. Specifically, it is used to provide comprehensive management and conservation of multiple wildlife species and the natural communities in which they occur.³⁹

³⁷ California Department of Fish and Wildlife. *California's Endangered Species Act Listing Process*. Available online at: http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/list_proced.html, accessed August 26, 2019.

³⁸ California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085], Section 2081*.

³⁹ California Legislative Information. *Article 3. Taking, Importation, Exportation, or Sale [2080-2085]*.

The Natural Community Conservation Planning Act of 1991, as amended in 2003 established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

Sections 3503 and 3503.5 of the State Fish and Game Code, Resident and Migratory Birds

Sections 3503 and 3503.5 of the State Fish and Game Code provide regulatory protection to resident and migratory birds and all birds of prey within the State of California, including the regulation of the taking of nests and eggs, unless otherwise provided for by the State Fish and Game Code. Specifically, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or destroy the nest or eggs of any bird of prey, except as otherwise provided.^{40,41}

Sections 3511, 4700, 5050, and 5515 of the State Fish and Game Code, Fully Protected Species

The classification of Fully Protected was the state's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal Endangered Species Acts. Sections 3511, 4700, 5050 and 5515 of the Fish and Game Code state that Fully Protected species (birds, mammals, fish, reptiles, amphibians) or parts thereof may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.^{42,43,44,45}

⁴⁰ California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503.*

⁴¹ California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3503.5.*

⁴² California Legislative Information. *Chapter 1. General Provisions [3500-3516], Section 3511.*

⁴³ California Legislative Information. *Chapter 8. Fully Protected Mammals [4700-4700].*

⁴⁴ California Legislative Information. *Chapter 2. Fully Protected Reptiles and Amphibians [5050-5050].*

⁴⁵ California Legislative Information. *Chapter 1. Miscellaneous [5500-5523], Section 5515.*

Title 14, § 460 of the California Code of Regulations

The regulations of take of furbearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5. Take is prohibited for several furbearing mammals under Title 14, § 460 of the CCR, including, but not limited to, desert kit fox (*Vulpes macrotis arsipus*) and red fox (*Vulpes vulpes*).⁴⁶ Title 14 § 460 is supported by Sections 200, 202, 203, and 4009.5 of the State Fish and Game Code.^{47,48}

California Porter-Cologne Water Quality Control Act (1969)

Pursuant to the California Porter-Cologne Water Quality Control Act (California Water Code, Division 7), the State Water Resources Control Board is granted ultimate authority over water quality policy for the State of California. The nine regional boards, the RWQCBs, oversee water quality at the local and regional levels, and regulate pollutant and nuisance discharges into waters of the state. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Before allowing discharges that may affect the quality of waters of the state, a Report of Waste Discharge must be filed with the RWQCB.⁴⁹

California Wild and Scenic Rivers Act (1972)

The objective of the California Wild and Scenic Rivers Act of 1972 (Public Resources Code [PRC] § 5093.50) is the preservation of certain rivers which possess extraordinary scenic, reaction, fishery, or wildlife values. The Act provides permanent protection for some of the state's most outstanding free flowing rivers and prohibits actions such as the construction of dams or other harmful instream activities, except to serve local needs.⁵⁰

California Coastal Act (1976)

Through the California Coastal Act (PRC Division 20), the California Coastal Commission has unusually broad authority to regulate development in the Coastal Zone. A permit is required for any project that might change the intensity of land use in the Coastal Zone including projects that would require a building or grading permit from the city or county, major vegetation clearing, or subdividing. The coastal

⁴⁶ California Code of Regulations. *Chapter 5. Furbearing Mammals*.

⁴⁷ California Legislative Information. *Article 1. Authority [200-219]*.

⁴⁸ California Legislative Information. *Article 1. Trapping Provisions [4000-4012]*.

⁴⁹ California State Water Resources Control Board. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 26, 2019.

⁵⁰ Water Education Foundation. *California Wild and Scenic Rivers Act*. Available online at: <https://www.watereducation.org/aquapedia/california-wild-and-scenic-rivers-act>, accessed August 26, 2019.

zone generally extends three miles seaward and about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable impact on the coastline from inland development, the coastal zone extends to a maximum of five miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.⁵¹

California Native Plant Protection Act (1977)

The Native Plant Protection Act (Fish and Game Code Section 1900–1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the California ESA. The Native Plant Protection Act provides limitations by stating “no person will import into this State, or take, possess, or sell within this State” any rare or endangered native plant, except in compliance with provisions of the act. Individual landowners are required to notify the CDFW at least 10 days in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.⁵²

California Desert Native Plant Act (1981)

The main purpose of the Desert Native Plant Act (Food and Agriculture Code Division 23) is to preserve and enhance desert native plants by protecting certain species from unlawful harvesting on both public and privately owned lands. The list of desert native plants afforded protection pursuant to the Desert Native Plant Act includes species within the Mojave Desert portions of Los Angeles, San Bernardino, and Riverside Counties. The Desert Native Plant Act provides limitations that no person will harvest, transport, or possession of certain native desert plants without authorization (i.e., valid permit or wood receipt). Authorization for take of native desert plants can be obtained through the sheriff or commissioner of the county where harvesting will occur and subject to county designated fees.⁵³

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state’s biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their

⁵¹ *Public Resources Code Division 20 California Coastal Act*. 2019.

⁵² California Legislative Information. *Chapter 10. Native Plant Protection [1900-1913]*.

⁵³ California Department of Fish and Wildlife. *California Desert Native Plants Act*. Available online at: <https://www.wildlife.ca.gov/Conservation/Plants/CA-Desert-Plant-Act>, accessed August 26, 2019.

habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.⁵⁴

State Senate Concurrent Resolution No. 17 – Relative to Oak Woodlands

The State Senate Concurrent Resolution No. 17, filed with the Secretary of State on September 1, 1989, states that any state agencies having land use planning duties and responsibilities shall assess the effects of their land use decisions or actions within any oak woodlands containing blue oak (*Quercus douglasii*), Engelmann oak (*Q. engelmannii*), valley oak (*Q. lobata*), or coast live oak (*Q. agrifolia*). The State Senate defines “oak woodland” as a five-acre circular area containing five or more oak trees per acre. This resolution requires that state agencies must preserve and protect native oak woodlands to the maximum extent feasible or provide for replacement plantings where blue, Engelmann, valley, or coast live oak are removed from oak woodlands.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

The SWRCB adopted procedures as an amendment to the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to establish a statewide wetland definition and procedures for discharges on April 2, 2019.⁵⁵

The procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. In accordance with EO W-59-93, the procedures ensure that the SWRCB’s regulation of dredge or fill activities will be conducted in a manner “to ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values.

⁵⁴ California Department of Fish and Wildlife. *Natural Community Conservation Planning (NCCP)*. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>, accessed August 26, 2019.

⁵⁵ California Water Boards. *Plan and Policies*. Available online at: https://www.waterboards.ca.gov/plans_policies/, accessed August 26, 2019.

State Wildlife Action Plan (SWAP)

Congress created the State and Tribal Wildlife Grants (SWG) program in 2000, recognizing the need to fund programs for the conservation of wildlife diversity.⁵⁶ Congress mandated each state and territory to develop a SWAP by 2005 that provided a comprehensive wildlife conservation strategy to continue receiving federal funds through the SWG program. California's first SWAP was completed by the California Department of Fish and Game (now the CDFW) and approved by the U.S. Fish and Wildlife Services (USFWS) in 2005. California's SWAP 2005 identified and targeted Species of Greatest Conservation Need (SGCN) and the critical habitats on which they depend. The SWG program requires SWAP updates at least every 10 years. CDFW has recently prepared SWAP 2015, which is the first comprehensive update of SWAP 2005.⁵⁷ Currently under USFWS review for approval, the SWAP 2015 focuses on conservation of the wildlife resources of the nation's most biologically diverse state using an approach that is in harmony with a growing human population and the need for resilience in the face of a changing climate. Employing an ecosystem approach to conserve and manage diverse habitats and species, SWAP 2015 provides a blueprint for actions necessary to address the highest priorities for conserving California's aquatic, marine, and terrestrial resources.

Assembly Bill 2087

This bill establishes a pilot project for the Regional Conservation Investment Strategy (RCIS) program that encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats. No more than eight regional strategies could be approved prior to January 1, 2020, the date the program sunsets.

Senate Bill 103

This bill changes Assembly Bill 2087 by: 1) removing the January 1, 2020 "sunset" provision; and 2) allowing a RCIS to be exempt from the "cap" (i.e., the limit of eight RCISs that may be approved by CDFW) if a state water or transportation infrastructure agency requests approval of the RCIS.

3.4.2.3 Local

In addition to federal, state, and county regulations described above, general plans and municipal codes

56 U.S. Fish & Wildlife Services. Accessed 29 October 2015. State Wildlife Grant Program – Overview. Available at: <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG.htm>, accessed January 10, 2019.

57 California Department of Fish and Wildlife. 2015. California State Wildlife Action Plan 2015 Update: A Conservation Legacy for Californians. Available at: <https://www.wildlife.ca.gov/SWAP/Final>, accessed January 10, 2019.

of counties and cities in the SCAG region may include conservation elements that identify biological resources, including mature trees and locally important species that are afforded special consideration.

County General Plans and Ordinances

Per state general plan guidelines, county's general plan is required to contain a conservation element as well as an open space element. These elements are generally where discussions regarding biological resources can be found. Each county's general plan varies in level of detail and necessary measures to preserve biological resources. The counties within the SCAG area may each have individual codes or ordinances protecting biological resources. A commonly occurring ordinance is a native tree protection or oak tree protection ordinance. These codes and ordinances generally have a limited scope, in this case the removal of specific tree species, which are afforded some level of protection.

Imperial County

The Imperial County Code of Ordinances has established two codes related to biological resources (Chapter 12.44, Wildlife Protection, and Chapter 12.48 Wild Flowers and Trees). The Conservation and Open Space Element of the Imperial County General Plan has established one goal and two policies related to biological resources.⁵⁸ The County's two codes, one goal and two supporting policies relevant to the SCAG projects provide protection to wildlife, wild flowers and trees as well as preservation of native plant communities and best restoration practices.

Los Angeles County

The Conservation and Natural Resources Element of the Los Angeles County General Plan 2035 Update has established two goals and 13 policies related to biological resources. Ten of the 13 policies are relevant to the SCAG projects.⁵⁹ The two goals and eight supporting policies that apply to SCAG activities provide protection to natural habitats, special status species, sensitive plant communities, wildlife corridors, watersheds and other sensitive biological resources. They also act to discourage development in natural or biologically sensitive areas. In addition, the Los Angeles County Code of Ordinances has established an ordinance to protect native oak trees.

⁵⁸ Imperial County Planning and Development Services. 1993. *Imperial County General Plan: Chapter 9: Conservation and Open Space Element*. Pp. 47, 54. Available at: <http://www.icpds.com/CMS/Media/Conservation-and-Open-Space-Element.pdf>, accessed January 10, 2019.

⁵⁹ Los Angeles County Department of Regional Planning. January 2014. *Los Angeles County General Plan Public Review Draft: Chapter 9: Conservation and Natural Resources Element*. P. 146. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter9_2014.pdf, accessed January 10, 2019.

Los Angeles County has designated several areas containing sensitive biological resources as Significant Ecological Areas (SEAs). SEAs are areas that warrant special management because they contain biotic resources that are considered to be rare or unique; are critical to the maintenance of wildlife; represent relatively undisturbed areas of Los Angeles County Habitat Types; or serve as linkages. Any development within SEAs is subject to the discretion and policies of the Significant Ecological Areas Technical Advisory Committee (SEATAC).

Orange County

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.⁶⁰ The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants and vegetation communities.

Riverside County

The Riverside County Code of Ordinances has established one ordinance related to biological resources (No. 559, Section 1). The Open Space and Conservation Element of the Riverside County General Plan has established two objectives and eight policies related to biological resources.⁶¹ The one ordinance, two goals, and eight supporting policies relevant to the SCAG projects provide protection to native trees, native plant communities, critical habitat, sensitive habitats, sensitive species and wildlife corridors. They also ensure continued participation and compliance with the County's Multi-Species HCP Program and the San Bernardino kangaroo rat HCP.

San Bernardino County

The San Bernardino County Development Code has established one code related to biological resources (Chapter 88.01.010(c)). The Conservation Element of the San Bernardino County General Plan has established one goal and six policies related to biological resources.⁶² The one code, two goals, and six supporting policies relevant to SCAG projects provide protection to native species, sensitive species and

⁶⁰ Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element*. P. VI-32. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed January 10, 2019.

⁶¹ Riverside County Planning Department. November 2012. *Riverside County General Plan 2025: Open Space and Conservation Element*. P. OS-40. Available online at: http://www.riversideca.gov/planning/gp2025program/GP/12_Open_Space_and_Conservation_Element.pdf, accessed January 10, 2019.

⁶² San Bernardino County Land Use Services. 2007. *San Bernardino County General Plan: Chapter 5: Conservation Element*. P. V-13. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed January 10, 2019.

sensitive plant communities. They also warrant coordination with the appropriate resource management agencies and interested groups to maintain the County's biological resources.

Ventura County

The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources.⁶³ The one code, one goal and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors and locally important species/communities.

City General Plan and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. The conservation element provides goals and polices related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many of the cities have ordinances related to protection, conservation and management of natural habitats, and associated plant and animal resources.

Regional Conservation Investment Strategies

The RCIS Program encourages public agencies to develop regional conservation planning documents to help local native species populations by protecting, restoring, creating, and reconnecting their habitats.⁶⁴ The RCIS was created when the Governor signed Assembly Bill 2087 (2016) to initiate the pilot program (Program). The Program went into effect on January 1, 2017, as amended by Senate Bill 103 (2017), and is

⁶³ Ventura County Planning and Development Services. 2016. *Ventura County General Plan: Goals, Policies And Programs*. P. 16. Available at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed January 10, 2019.

⁶⁴ Energy and Environmental Consulting and California Department of Fish and Wildlife. 2019. *Regional Conservation Investment Strategies*. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=134963&inline>

administered by CDFW's Habitat Conservation Planning Branch.⁶⁵ The goal of the RCIS is to achieve regional conservation outcomes through investments in conservation and mitigation that support regional conservation priorities. Public agencies and other entities can protect natural resources in their regions, for their ecological values and for the ecosystem services they provide to their communities. This is a non-regulatory and voluntary program.

The Program consists of regional conservation assessments (RCAs), RCISs, and mitigation credit agreements (MCAs):

- RCA's are a non-regulatory and non-binding conservation assessments that provide an analysis of species, ecosystems, protected areas, and habitat linkages. This information is intended to support the development/determination of long-term conservation priorities and to support the development of RCISs.
- RCIS include conservation and habitat enhancement strategies that advance the conservation of native species, habitat. These plans also provide nonbinding and voluntary guidance for the prioritization of conservation priorities, investments in ecological resource conservation sources, or identification of locations for compensatory mitigation.
- MCAs are mitigation credit agreements developed, in coordination with CDFW, to implement the conservation or habitat enhancement actions identified in an approved RCIS. These credits may be used as compensatory mitigation for impacts under CEQA, CESA, and the Lake and Streambed Alteration Program.

In the SCAG region there are two RCIS's currently in development: the Antelope Valley RCIS in northeastern Los Angeles County and the San Bernardino County RCIS in Southwestern San Bernardino County. These two draft plans are in process but may be finalized sometime after 2020. The Antelope Valley RCIS proponent is the Desert and Mountain Conservation Authority and the San Bernardino County RCIS proponent is the San Bernardino County Transportation Authority. Although these, nor any other plans, have been finalized in the region, RCIS should be considered as part of the mitigation strategy for transportation projects in the region.

⁶⁵ California Department of Fish and Wildlife. 2019. Regional Conservation Investment Strategies Program. Available at: <https://www.wildlife.ca.gov/Conservation/Planning/Regional-Conservatio>

3.4.3 ENVIRONMENTAL IMPACTS

3.4.3.1 Thresholds of Significance

In accordance with Appendix G of the *State CEQA Guidelines*, the Plan would have a significant impact related to biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

3.4.3.2 Methodology

Impacts to biological resources were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Biological resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region; and a review of related literature germane to the SCAG region.

The impact assessment for biological resources focuses on the potentially significant direct effects of the Plan on biological resources within the SCAG region. To assess potential impacts to biological resources, existing geographic information system (GIS) spatial data for natural resources, as summarized in the

existing biological resource analysis were overlain with GIS data of major transportation projects proposed in the Plan.⁶⁶ The analysis considers the 2045 Plan conditions compared to existing conditions (generally 2019). This analysis includes major highway, rail, and transit projects to identify potential impacts near biological resources in each county that have the potential to result in significant direct impact to special status species or their habitats; have the potential to result in conversion of state-designated sensitive habitats, including those habitats afforded protection pursuant to Sections 401 and 404 of the Federal Clean Water Act, and/or Section 1600 of the State Fish and Game Code; or have the potential to disrupt migratory corridors, nursery sites, or lands designated for long-term regional conservation of species.

Using GIS spatial data, potential regional-level adverse effects were identified by adding a 500-foot buffer to major transportation projects included in the Plan and overlaying project impacts within each county in the SCAG region to identify intersections between transportation projects and known locations of biological resources, including natural vegetation, wetlands and water resources, special status species and communities, and natural lands. The analysis also includes a review of adopted HCPs NCCPs and RCIPs to identify potential conflicts with their provisions. The 500-foot buffer was added to account for any potential direct or indirect impacts that may occur to biological resources during construction and operation. The methodology for determining the significance of these impacts compares the future Plan conditions to baseline conditions.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.4.3.3 Impacts and Mitigation Measures

Impact BIO-1 Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special

⁶⁶ Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would affect biological resources. Direct impacts that could occur during construction of some projects include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Direct impacts may also occur through direct habitat loss and fragmentation during construction, displacement of sensitive species due to construction noise or during operation, accidental introduction of non-native plants by construction equipment or during maintenance and general operation, introduction of new lighting sources, and dust and noise during construction and operation.

Implementation of any new transportation projects or land use strategies in or adjacent to natural habitats would also increase the risk and frequency of fires that could degrade the function and value of habitats supporting sensitive species (impacts from wildfires are further discussed in **Section 3.20, Wildfire**). Further, indirect impacts could result from general development related to growth that is expected to occur with the Plan. Indirect impacts could also occur as a result of transportation projects if suitable habitat was encroached upon to the extent that it could no longer support sensitive species. Indirect impacts may include edge effects resulting from habitat fragmentation which can alter habitat structure and composition as well as negatively impact predator-prey dynamics.

Expected significant impacts include: direct loss of natural resource lands; disturbance and removal of natural vegetation used by sensitive species; barriers to wildlife movement, habitat fragmentation, and the associated decrease in habitat quality; litter, trampling, light pollution and road noise in previously undisturbed natural areas; increased noise levels related to construction and/or increased traffic volumes; temporal loss of habitat during construction; expansion of public access into previously remote lands; displacement of riparian and wetland habitat; incursion of invasive plants and animals spreading from new transportation corridors; siltation of streams and other water bodies during construction; and the loss of open space that provides habitat for native species.

Impacts to sensitive species may be further exacerbated by the effects of climate change.⁶⁷ Special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for their survival. The combination of project impacts and climate

⁶⁷ Native Plants and Climate Change. 2019. California Deptmnt of Fish and Wildlfe. Available at: <https://www.wildlife.ca.gov/Conservation/Plants/Climate>

change can further reduce available habitat, reduce movement opportunities for wildlife, provide new corridors for invasive species infestations, and increase the risk of fires in open space to the detriment of special status species.

Regional land use and transportation strategies set forth in the Plan focus new growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The Plan recognizes that as population continues to grow, there is increasing pressure on natural lands. One of the goals of the Plan (See **Chapter 2.0, Project Description**) is to promote conservation of natural and agricultural lands and restoration of critical habitats. The land use mix for the Plan assumes that 60 percent of new housing and 73 percent of new jobs will be in Growth Priority Areas and therefore would be directed away from sensitive habitat. The Plan also aims to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG's Sustainable Communities Program supports planning in local jurisdiction to advance the regional growth vision. In addition, SCAG new regional data tools, like the Regional Data Platform and Greenprint, would help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and lands with sensitive natural resources to be preserved.

The Plan also includes urban greening strategies. Urban Greening is a multi-benefit land use strategy that improves the relationship between the built and natural environment. Greening can support reduction in greenhouse gas emissions by sequestering carbon and reduce vehicle miles traveled by making the environment more appealing for people who are bicycling and walking. Benefits within urban, suburban and rural settings include:

- Improved traffic calming and safety;
- Increased active transportation
- Cooler street surfaces and communities
- Increased trail and greenway connectivity
- Improved water quality, groundwater recharge and watershed health
- Reduced urban runoff
- Reduced energy consumption and costs
- Expanded urban forest
- Provision of wildlife habitat and increased biodiversity
- Expanded recreation opportunities and beautification.

The Plan also includes greenbelts and community separators to serve as contiguous areas that support land conservation. Creating a sustainable, “green” region requires that the built environment and natural resource areas coexist in a well-balanced land use pattern that encourages mutual co-benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools. Paired with an emphasis on compact development, Connect SoCal’s conservation strategies promote the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for greenhouse gas reduction. New housing and employment development is emphasized in Growth Priority Areas, such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration of varied land uses. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per-capita greenhouse gas emissions. In addition, natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of GHG emissions. Natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Overall, these strategies support redirecting growth away from high value habitat areas to existing urbanized areas which would support the conservation of natural habitats capable of sustaining listed and sensitive species by including land use strategies.

Across the SCAG region there are records of and/or habitat for 63 federally or state-listed wildlife species and 72 federally or state-listed plant species, 233 sensitive wildlife species, 449 rare and locally important plant species, and over 5.5 million acres of designated critical habitat for 46 federally listed species. The development of transportation improvement projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, within the SCAG region may result in significant impacts to these species and their habitats. For example, major transportation improvement projects in San Bernardino County are anticipated to cross known habitat for the federally threatened desert tortoise, and major transportation improvement projects in Los Angeles, Orange, Riverside, and Ventura counties are anticipated to cross critical habitat for the coastal California gnatcatcher (**Table 3.4-13, Acres of Critical Habitat For Listed Species Potentially Within 500 Feet of Connect SoCal Transportation Projects**).

**Table 3.4-13
Acres of Critical Habitat for Listed Species Potentially Affected by
Connect SoCal Major Transportation Projects**

Species	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
Acres of Critical Habitat within 500 Feet of Major Projects						
Arroyo toad	—	744	9	—	202	—
Ash-grey paintbrush	—	—	—	—	20	—
Braunton's milk-vetch	—	—	8	—	—	10
California red-legged frog	—	—	—	—	—	52
Casey's June Beetle	—	—	—	23	—	—
Coachella Valley milk-vetch	—	—	—	342	—	—
Coastal California gnatcatcher	—	2,382	911	56	96	310
Desert tortoise	—	—	—	898	4,161	—
Least Bell's vireo	—	273	—	369	148	—
Lyon's pentachaeta	—	—	—	—	—	71
Mountain yellow-legged frog	—	—	—	—	321	—
Palos Verdes blue butterfly	—	33	—	—	—	—
Riverside fairy shrimp	—	—	6	6	—	52
San Bernardino Merriam's kangaroo rat	—	—	—	142	1,936	—
San Diego ambrosia	—	—	—	23	—	—
Santa Ana sucker	—	141	212	260	190	—
Southwestern willow flycatcher	—	226	—	—	401	309
Spreading navarretia	—	—	—	244	—	—
Steelhead	—	1	4	—	—	—
Thread-leaved brodiaea	—	—	—	49	—	—
Tidewater goby	—	17	4	—	—	22
Western snowy plover	—	44	56	—	—	17
Yellow-billed Cuckoo	254	44	56	—	—	17

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2019. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Designated critical habitat contains known suitable habitat for federally listed species and typically is an indicator of suitable habitat for state- and/or non-listed sensitive species. More than 16,000 acres of critical habitat for 23 of the 26 species covered in the SCAG region are present within 500 feet of major project areas.

Of the 72 listed plant species with records in the SCAG region, 34 species, with nearly 1,500 recorded occurrences, have CNDDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-14, Records of Listed Plant Species within 500 Feet of Connect SoCal Projects**).

Of the 63 listed wildlife species with records in the SCAG region, 41 species, with nearly 6,600 occurrences, have CNDDDB records that exist within 500 feet of major transportation projects included in the Plan (**Table 3.4-15**). In addition to these listed species, impacts to rare, locally important, and sensitive plant and wildlife species would be expected to occur throughout the SCAG region where suitable habitat is present.

**Table 3.4-14
Records of Listed Plant Species within 500 Feet of Connect SoCal Projects**

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
ash-gray paintbrush					156		156
beach spectaclepod		41					41
Big Bear Valley sandwort					78		78
bird-foot checkerbloom					83		83
Braunton's milk-vetch		9	6			2	17
California dandelion					60		60
California Orcutt grass		76		29		3	108
Coachella Valley milk-vetch				49			49
coastal dunes milk-vetch		15					15
conejo buckwheat						3	3
Conejo dudleya						3	3
Gambel's water cress		1	7		11		19
Laguna Beach dudleya			4				4
Lyon's pentachaeta		13				3	16
marsh sandwort		1		5	72		78
Munz's onion				12			12
Nevin's barberry		9			1		10
salt marsh bird's-beak		20	24	5	72		121

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
San Bernardino blue grass					40		40
San Bernardino Mountains bladderpod					89		89
San Diego ambrosia				3			3
San Diego button-celery		1					1
San Fernando Valley spineflower		34					34
San Jacinto Valley crowscale				20			20
Santa Ana River woollystar			36	5	24		65
Santa Susana tarplant		10				5	15
slender-horned spineflower		23		15	12		50
slender-petaled thelypodium					15		15
southern mountain buckwheat					119		119
spreading navarretia		1		17			18
thread-leaved brodiaea			1	9	1		11
triple-ribbed milk-vetch				28	3		31
Ventura Marsh milk-vetch		16	11			42	69
Wiggins' croton	2						2
Grand Total	2	270	89	197	836	61	1455

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base. Sacramento, CA.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-15
Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
American peregrine falcon		46	25			9	80
arroyo toad		17			23		40
bald eagle					5		5
bank swallow		60	21			10	91
Belding's savannah sparrow			64				64
California black rail	3	18	15	1	37	1	75
California least tern		6	44				50
California red-legged frog					17	5	22

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Casey's June beetle				3			3
Coachella Valley fringe-toed lizard				127			127
coastal California gnatcatcher		51	87	52	19	6	215
Delhi Sands flower-loving fly				386	1722		2108
desert tortoise	1	1			10		12
El Segundo blue butterfly		6					6
Gila woodpecker	3			1			4
gilded flicker	2						2
green turtle		6	7				13
least Bell's vireo		88	112	126	34	39	399
lesser long-nosed bat					2		2
light-footed Ridgway's rail			67				67
Mohave ground squirrel		7			20		27
Mohave tui chub					13		13
Pacific pocket mouse		47	2				49
Palos Verdes blue butterfly		77					77
quino checkerspot butterfly		16	1	18	21		56
razorback sucker	1			1			2
Riverside fairy shrimp		3		3			6
San Bernardino kangaroo rat				19	22		41
Santa Ana sucker		75	7	21	2	5	110
southern mountain yellow-legged frog		7		2	16		25
southern rubber boa					2060		2060
southwestern willow flycatcher		82		2	12		96
steelhead - southern California DPS		5	115	47	16	21	204
Stephens' kangaroo rat				99			99
Swainson's hawk		30		34	44		108
tidewater goby		5	17			6	28
tricolored blackbird		15	24	8	1		48
unarmored threespine stickleback		65					65
western snowy plover		3	14			3	20
western yellow-billed cuckoo	3	17	3	6	24	10	63

Species	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
Yuma Ridgway's rail	6						6
Grand Total	19	753	625	956	4120	115	6588

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2019. *Rarefind 5: A Database Application for the Use of the California Department of Fish and Game Natural Diversity Data Base*. Sacramento, CA.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

While implementation of land use and transportation strategies may guide development toward areas that are already disturbed through the emphasis on compact development and the strategies listed above, some new transportation projects are still anticipated in areas where sensitive species are located. The level of impact to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat will vary on a project-by-project basis. For example, grade separation projects or rail projects located in areas containing natural, previously undisturbed vegetation are anticipated to have a greater impact on threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat than a traffic signal synchronization or lane-restriping project located in an urban environment.

This analysis of impacts of the Plan to sensitive plant and wildlife species and their habitats and designated critical habitat is at the programmatic level, and conservatively assumes that species with critical habitat and/or CNDDDB records in a given area may be present in that area. However, the CNDDDB record is also incomplete and may not show all sensitive species present in a given area and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of the Federal and State ESAs, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code.

Impacts to threatened and/or endangered species, fully protected and sensitive species, locally important species, or associated critical habitat resulting from transportation improvement projects included in the Plan would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan.

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat.

Project Level Mitigation Measures

PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.
- b) Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include:
 - i. Impact minimization strategies
 - ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts
 - iii. Use of in-kind mitigation bank credits
 - iv. Funding of research and recovery efforts
 - v. Habitat restoration
 - vi. Establishment of conservation easements
 - vii. Permanent dedication of in-kind habitat
- c) Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.
- d) Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or non-native habitat wherever feasible, so as to avoid or minimize impacts to these species
- e) Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources.
- f) Retain a qualified botanist to document the presence or absence of special status plants before project implementation.

- g) Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact.
- h) Appoint a qualified biologist to monitor implementation of mitigation measures.
- i) Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.
- j) Develop an invasive species control plan associated with project construction
- k) If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife
- l) Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance.
- m) Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on sensitive species could be significant and unavoidable even with implementation of mitigation.

Impact BIO-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Land use and transportation strategies in the Plan seek to minimize the conversion of natural landscapes that may contain sensitive plant communities or riparian habitats by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Some jurisdictions in the region have taken steps toward planning comprehensively for conserving natural lands and farmlands, while also meeting demands for growth. Proposed natural lands conservation strategies described in the Plan are built upon the conservation framework and complements an infill-based approach. While implementation of land use strategies may guide development projects toward areas that are already developed, some projects are still anticipated in areas where riparian habitats or other sensitive natural communities are located.

The level of impacts to riparian habitats and sensitive natural communities as a result of the Plan will differ on a project-by-project basis. For example, projects that have the potential to cross waterways or require conversion of natural open space to infrastructure, such as transit or rail projects, highway segment projects, land use development in open space areas, or have the potential to convert state-designated habitats including riparian habitats, would have the potential to have significant impacts on sensitive plant communities and riparian habitats. As described above, the Plan includes greenbelts and community separators to support land conservation and allow the built environment and natural resource areas to coexist. Transportation projects that are contained within the alignments of existing transportation corridors, such as bike lane projects and traffic demand management measures, as well as land use development within existing urbanized areas would generally not be expected to have significant impacts on sensitive plant communities and riparian habitats.

Of the nearly 23 million acres of open space in the SCAG region, 318,000 acres are currently identified by the CNDDB as containing state-sensitive plant communities, including 190,700 acres of riparian habitats. Riparian habitats in the SCAG region may fall under the jurisdiction of the CDFW. It is important to note that mapping of sensitive habitats and sensitive natural communities within the region is incomplete and the likelihood of additional state-sensitive plant communities and riparian habitat to exist within the six-county region is high. Therefore, due to large-scale ground disturbance, including grade separation

projects, mixed flow lane projects, and rail projects, and large residential subdivisions within the SCAG region, the Plan may result in significant impacts to these riparian habitats and sensitive plant communities.

It is also estimated that the Plan will result in the direct consumption of 41,546 acres of greenfield. Natural open space areas have a high potential to contain sensitive plant communities and riparian habitats, and projects constructed in these areas would require individual field analysis at the project-level to determine the level of impacts.

Impacts to CNDDDB documented sensitive plant communities and CDFW documented sensitive natural communities and riparian habitats within 500 feet of major transportation projects included in the Plan would occur within each county in the SCAG region (**Table 3.4-16, Acres of Sensitive and Riparian Habitats within 500 Feet of Connect SoCal Major Transportation Projects**). It is anticipated that impacts to sensitive and riparian habitats would occur in areas beyond those identified by the CNDDDB and CDFW. Of the more than 80,000 linear miles of blueline features in the SCAG region, 4,466 miles have the potential to be adversely affected within 500 feet of major transportation projects included in the Plan (**Table 3.4-17, Blueline Streams and Rivers within 500 Feet of Connect SoCal Major Transportation Projects**). These blueline features have the potential to contain riparian habitat.

Impacts associated with the conversion of sensitive and riparian habitats would include direct loss and fragmentation of sensitive communities and riparian habitats as projects are developed, temporal loss of habitat in temporary work areas, alteration of hydrology supporting these habitats, and the possible introduction of non-native plants that would degrade existing communities during construction, operation, and maintenance. Further, indirect impacts resulting from the development of transportation projects could include growth induced development of associated infrastructure to support population growth within surrounding areas which may impact sensitive plant communities and riparian habitats through the disturbance and removal of vegetation, alterations to supporting watersheds or changes (addition or removal) of up-stream water sources.

**Table 3.4-16
Acres of Sensitive and Riparian Habitats within 500 Feet of
Connect SoCal Major Transportation Projects**

Habitat Type	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	Grand Total
California Walnut Woodland		431					431
Desert Fan Palm Oasis Woodland				148	704		851
Mesquite Bosque				130			130
Open Engelmann Oak Woodland		308					308
Pebble Plains					111		111
Riversidian Alluvial Fan Sage Scrub		418			1475		1893
Sonoran Cottonwood Willow Riparian Forest	73						73
Southern California Arroyo Chub/Santa Ana Sucker Stream		32	379	158	13		582
Southern California Coastal Lagoon		8					8
Southern California Steelhead Stream		3				115	118
Southern California Threespine Stickleback Stream		515					515
Southern Coast Live Oak Riparian Forest		338	46			44	428
Southern Coastal Bluff Scrub		65					65
Southern Coastal Salt Marsh		48	242				290
Southern Cottonwood Willow Riparian Forest		551	333	487	46		1417
Southern Dune Scrub		407	51				459
Southern Foredunes			178				178
Southern Mixed Riparian Forest					158		158
Southern Riparian Forest					18		18
Southern Riparian Scrub		1271				184	1456
Southern Sycamore Alder Riparian Woodland		159	119	230	98	113	718
Southern Willow Scrub		98	90			162	350
Valley Oak Woodland		142				35	176
Walnut Forest		13					13
Grand Total	73	4808	1438	1153	2623	653	10747

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>.

Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

Table 3.4-17
Blueline Streams and Rivers within 500 Feet of
Connect SoCal Major Transportation Projects

County	Miles of Blueline Streams/Rivers within 500 Feet of Major Transportation Projects
Imperial	158
Los Angeles	3399
Orange	223
Riverside	314
San Bernardino	274
Ventura	99
Grand Total	4466

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

U.S. Geological Survey. *National Hydrography Dataset*. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/about-national-hydrography-products>.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

This analysis of impacts of the Plan to sensitive plant communities and riparian habitats is at the programmatic level, and conservatively assumes that all natural open space areas have the potential to contain sensitive plant communities and all waterways have the potential to contain riparian habitat. However, the existing data record is also incomplete and much more sensitive habitat is likely present in the region and project specific surveys may be required. The level of impact of subsequent projects would be subject to verification at the project-level of environmental review pursuant to CEQA. All projects within the SCAG region would be subject to the provisions of Section 1600 of the State Fish and Game Code in which a Lake or Streambed Alteration Agreement would need to be obtained prior to the alteration of a state jurisdictional area.

Therefore, the Plan would result in significant impacts to state-designated riparian and other sensitive plant communities, including areas subject to Section 1600 of the State Fish and Game Code, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2**.

Project Level Mitigation Measures

See **PMM BIO-1**.

PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA.
- b) Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.
- c) Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code.
- d) Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.
- e) Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the MBTA during the breeding season.

- f) Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities.
- g) Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible.
- h) Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required.
- i) Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities.
- j) Appoint a qualified wetland biologist to monitor implementation of mitigation measures.
- k) Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased.
- l) When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects.
- m) Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant to an adopted regional conservation plan.
- n) Install fencing and/or mark sensitive habitat to be avoided during construction activities.
- o) Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist.

- p) Revegetate with appropriate native vegetation following the completion of construction activities, as identified by the qualified wetland biologist.
- q) Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).
- r) Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on riparian habitats could be significant and unavoidable even with implementation of mitigation.

Impact BIO-3 Have a substantial adverse effect on State or Federally Protected Wetlands (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on wetlands. Transportation and land use strategies in the Plan (e.g., compact growth, TSM, etc.) seek to minimize impacts to federally protected wetlands and Waters of the United States as defined by Section 404 of the Clean Water Act by focusing new growth in HQTAs, Growth Priority Areas, and more walkable, mixed-use communities. Impacts would occur where dredge or fill would be required within wetlands or other waters of the United States, particularly where projects need to cross drainages where a clearspan to avoid impacts is infeasible. There is potential for comparable significant impacts in areas subject to Section 10 of the Rivers and Harbors Act. The level of impacts to federally protected wetlands and Waters of the United States would

vary on a project-by-project basis. For example, grade separation projects or transit/rail projects located in areas containing coastal habitats or close to the terminal locations of major rivers or stream systems, where the width of the stream is often largest would be anticipated to have a greater impact on federally protected wetlands and waters of the United States than those located in the upstream portion of the watershed, near the headwaters where drainages are typically more numerous and narrower.

More than 800,000 acres of federally protected wetlands and waterways potentially subject to the jurisdiction of the USACE were identified by the National Wetlands Inventory to be present in the SCAG region. In addition, the SCAG region includes more than 80,000 linear miles of USGS blue-line drainages that may contain waters of the United States.

While land use development projects may be focused in areas that are already developed as reflected under the Plan, some new projects are still anticipated in areas where wetlands are located.

Potential impacts to wetlands and waters of the United States within 500 feet of major transportation projects included in the Plan exist within all six counties in the SCAG region, ranging from 700 acres potentially affected in Imperial County to 5,000 acres potentially affected in Los Angeles County (**Table 3.4-18, Acres of Federally Protected Wetlands and Waterways within 500 Feet of Connect SoCal Major Transportation Projects**).

Table 3.4-18
Acres of Federally Protected Wetlands and Waterways within
500 Feet of Connect SoCal Major Transportation Projects.

Habitat	Acres
Imperial	694
Freshwater Emergent Wetland	26
Freshwater Forested/Shrub Wetland	142
Freshwater Pond	110
Lake	55
Riverine	361
Los Angeles	5014
Estuarine and Marine Deepwater	458
Estuarine and Marine Wetland	213
Freshwater Emergent Wetland	235
Freshwater Forested/Shrub Wetland	715
Freshwater Pond	531
Lake	203

Habitat	Acres
Riverine	2657
Orange	1935
Estuarine and Marine Deepwater	253
Estuarine and Marine Wetland	214
Freshwater Emergent Wetland	95
Freshwater Forested/Shrub Wetland	331
Freshwater Pond	179
Lake	325
Riverine	539
Riverside	1465
Freshwater Emergent Wetland	140
Freshwater Forested/Shrub Wetland	344
Freshwater Pond	153
Lake	47
Riverine	781
San Bernardino	1906
Freshwater Emergent Wetland	103
Freshwater Forested/Shrub Wetland	70
Freshwater Pond	231
Lake	606
Riverine	896
Ventura	865
Estuarine and Marine Deepwater	9
Estuarine and Marine Wetland	44
Freshwater Emergent Wetland	72
Freshwater Forested/Shrub Wetland	295
Freshwater Pond	80
Riverine	365
Grand Total	11,879

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019. U.S. Fish and Wildlife Service. *National Wetlands Inventory*. Available online at: <https://www.fws.gov/wetlands/data/Mapper.html>. Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb*, *DraftRTP_2045Plan_Transit*, and *a2040_Urban_Rail_New*.

Additionally, by evaluating a 500 foot buffer around major transportation projects in the Plan, it was determined that major transportation projects included in Connect SoCal are anticipated to intersect more than 75 linear miles of navigable waterways including waterways that are protected by Section 10 of the

Rivers and Harbors Appropriation Act (Table 3.4-19, Federally Protected Waterways Under Rivers and Harbors Act within 500 Feet of Connect SoCal Major Transportation Projects).

Table 3.4-19
Federally Protected Waterways under Rivers and Harbors Act
within 500 Feet of Connect SoCal Major Transportation Projects

Major River in the SCAG Region	Linear Miles Potentially Affected within 500 Feet of Major Transportation Projects
Los Angeles	59.0
Los Angeles River	32.3
San Gabriel River	12.3
Santa Clara River	14.4
Orange	10.5
San Gabriel River	0.0
Santa Ana River	10.5
Riverside	2.8
Santa Ana River	2.8
San Bernardino	2.2
Santa Ana River	2.2
Ventura	0.7
Santa Clara River	0.7
Grand Total	75.3

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2019. BIOS. Available online at: <https://www.wildlife.ca.gov/data/cnddb/maps-and-data#43018410-cnddb-quickview-tool>.

Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Potential impacts include disruption of streams and wetlands as new projects are developed, and dredge and fill activities associated with development, operation, and maintenance. All projects within the SCAG region would be subject to the provisions of Section 404 of the Federal CWA. Dredge or fill in waters of the United States is subject to the regulatory authority of the USACE pursuant to Section 404 of the Federal CWA.

Therefore, the Plan would result in significant impacts to federally protected wetlands and Waters of the United States, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2**.

Project Level Mitigation Measures

See **PMM BIO-1** and **PMM BIO-2**.

PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands. Such measures may include the following or other comparable measures identified by the Lead Agency.

- a) Require project design to avoid federally protected aquatic resources consistent with the provisions of Sections 404 and 401 of the CWA, wherever practicable and feasible.
- b) Where the lead agency has identified that a project, or other regionally significant project, has the potential to impact other wetlands or waters, such as those considered Waters Of the State of California under the *State Wetland Definition and Procedures for Dischargers of Dredged or Fill Material to Waters of the State*, not protected under Section 404 or 401 of the CWA, seek comparable coverage for these wetlands and waters in consultation with the SWRCB, applicable RWQCB, and CDFW.
- c) Where avoidance is determined to be infeasible, develop sufficient conservation measures to fulfill the requirements of the applicable authorization for impacts to federal and state protected aquatic resource to support issuance of a permit under Section 404 of the CWA as administered by the USACE. The use of an authorized Nationwide Permit or issuance of an individual permit requires the project applicant to demonstrate compliance with the USACE's Final Compensatory Mitigation Rule. The USACE reviews projects to ensure environmental impacts to aquatic resources are avoided or minimized as much as possible. Consistent with the administration's performance standard of "no net loss of wetlands" a USACE permit may require a project proponent to restore, establish, enhance or preserve other aquatic resources in order to replace those affected by the proposed project. This compensatory mitigation process seeks to replace the loss of existing aquatic resource functions and

area. Project proponents required to complete mitigation are encouraged to use a watershed approach and watershed planning information. The new rule establishes performance standards, sets timeframes for decision making, and to the extent possible, establishes equivalent requirements and standards for the three sources of compensatory mitigation:

- Permittee-responsible mitigation
- Contribution of in-kind in-lieu fees
- Use of in-kind mitigation bank credits
- Where avoidance is determined to be infeasible and

d) Where avoidance is determined to be infeasible and proposed projects' impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities:

- Avoidance
- Impact Minimization
- On-site alternatives
- Off-site alternatives

e) Require review of construction drawings by a certified wetland delineator as part of each project-specific environmental analysis to determine whether aquatic resources will be affected and, if necessary, perform formal wetland delineation

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level

mitigation measures, this PEIR finds impacts on wetlands could be significant and unavoidable even with implementation of mitigation..

Impact BIO-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would interfere substantially with the movement of native resident or migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites directly, as a result of habitat conversion to accommodate transportation projects and growth under the Plan, or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and adjacent projects that may result from improved transportation access. The Plan would result in the direct consumption of 41,546 greenfield acres and the degradation of approximately 15,800 acres of bird habitat.⁶⁸ Indicators of wildlife movement are present across the SCAG region. More than 18 million acres of natural open space in the region can be characterized as having the potential to be suitable for, or aid in, wildlife movement. Furthermore, many bird species breed and are expected to nest within the entire SCAG region, including urban areas. Within that open space is nearly 12 million acres of habitat blocks that support native wildlife biodiversity and a significant wildlife connectivity network. These large, intact blocks are connected by more than 4.5 million acres of corridors that are classified as highly beneficial to wildlife movement.

Potential impacts exist for 16,167 acres of intact natural landscape blocks and 18,716 acres of associated major riparian connectors found within 500 feet of major transportation projects included in the Plan (**Table 3.4-20, Areas Used for Wildlife Movement Areas Potentially Affected by Connect SoCal Major Transportation Projects by County**).

Projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, as well as large-scale land use development could result in significant impacts to the wildlife movement corridors and native wildlife nursery sites. Some projects may also have the potential to cross areas that currently support medium to high permeability to wildlife movement in Ventura, Los Angeles, San Bernardino, Riverside and Imperial Counties.

⁶⁸ SCAG Scenario Planning Model Output, October 2019

Table 3.4-20
Areas Used for Wildlife Movement Potentially Affected by
Connect SoCal Major Transportation Projects by County

	Acres of Natural Landscape Blocks within 500 feet of Major Transportation Projects	Acres of Potential Landscape Block Major Riparian Connectors within 500 feet of Major Transportation Projects	Grand Total
Imperial	654	666	1,321
Los Angeles	3,914	12,165	16,079
Orange	1,287	2,403	3,689
Riverside	2,862	2,210	5,072
San Bernardino	7,202	898	8,100
Ventura	248	374	622
Grand Total	16,167	18,716	34,883

Source: SWCA Environmental Consultants. Biological Resources Report for Connect SoCal PEIR. October 2019.
California Department of Fish and Wildlife. 2019. Habitat Connectivity Planning for Fish and Wildlife. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/Connectivity>.
Natural Landscape Blocks - California Essential Habitat Connectivity (CEHC). 2017. California Department of Fish and Game, Sacramento, CA. Available online at: <https://map.dfg.ca.gov/metadata/ds0621.html>
Southern California Association of Governments GIS Data. 2019. Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New.

These impacts include habitat removal and fragmentation that would disrupt wildlife corridor functionality as new projects are developed, and introduction of lighting and noise during construction and operation that may interrupt wildlife movement and disturb nursery and nesting sites. Construction, operation and maintenance of transportation and development projects across or adjacent to existing wildlife corridors could introduce new barriers to wildlife movement or increase the impact of barriers to wildlife movement by widening the barriers and thus narrowing the corridor. The linear nature of transportation projects increases the potential extent and significance of this effect. Additionally, an increase in wildlife-roadway conflicts as a result of development could increase wildlife injury and fatalities.

One of the goals of the Plan is to preserve, enhance, and restore regional wildlife connectivity through strategies that encourage compact urban development. SCAG is also developing a Regional Greenprint, a strategic web-based conservation tool to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and to conserve natural and farmlands, which has a focus on maintaining habitat connectivity. In addition, the Plan's natural lands strategies will improve natural corridor connectivity by encouraging and facilitating research, programs and policies that

identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries.

Projects will be encouraged to create wildlife crossings and corridors in cases where transportation or other related projects may interrupt the flow of wildlife or otherwise cause habitat fragmentation. An example project in the SCAG region, scheduled for ground-breaking in the early 2020's, is the Liberty Canyon Wildlife Crossing proposed for the 101 Freeway in the City of Agoura Hills. This project is the first of its kind in California. The crossing will cross ten lanes of US Highway 101 and an access road, with an estimated 200-foot long by 165-foot wide structure to facilitate mountain lion and other wildlife movement across currently fragmented habitat regions.⁶⁹

Indirect impacts to migratory corridors and nursery sites would occur when the functionality of a corridor is degraded after construction of the transportation project. The development of transportation projects through migratory corridors and/or construction on existing transportation facilities that serve as barriers through wildlife corridors would result in an increase in human disturbances locally including an increase in traffic, noise, and lighting. New projects through or adjacent to open space or natural areas could also increase the risk and frequency of wildland fires that would further degrade ecosystem functions that support diverse wildlife populations and corridor function. These projects may also impact pollinator populations or behavior that could further impact local plant community stability and function and degrade existing habitat or the permeability of corridors. Further, indirect impacts resulting from demographic growth associated with these projects may impact wildlife corridors and nursery sites.

Potential impacts from transportation projects and the related changes to land use and development that these projects facilitate may be heightened due to climate change. The changing climate is altering local ecosystems, causing increased stress on wildlife from changes in plant communities and their structure, decreasing pollinator populations, altering precipitation patterns, and many other factors that increase the risk of extinction for wildlife^{70,71}. In addition, the changing climate often results in conditions favorable to invasive species that further reduces the ecosystem functions necessary to support wildlife populations. Transportation corridors can act as conduits for invasive species and their adjacency to vehicle traffic can increase wildfire risk, further degrading communities and reducing wildlife corridor value. Therefore, the conversion of existing native nursery habitat and potential wildlife movement areas

⁶⁹ National Wildlife Federation/SaveLACougars. 2019. Available online at: <https://savelacougars.org/> accessed November 22, 2019.

⁷⁰ Pollinator Conservation Strategy, Yolo Natural Heritage Program (HCP/NCCP).2009. The Xerces Society for Invertebrate Conservation. Portland Or/Sacramento CA.

⁷¹ Warren, R., Price, J., Fischlin, A. et al. Climatic Change (2011) 106: 141. <https://doi.org/10.1007/s10584-010-9923-5>.

resulting from the Plan would result in a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1** and **SMM BIO-2**, **SMM AG-1** through **SMM AG-4**, **SMM GHG-1**, **SMM WF-1**.

SMM BIO-3: SCAG shall encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-3**.

PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.
- b) Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans.
- c) Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.

- d) Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.
- e) Prohibit construction activities with 250 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.
- f) Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1, or following the nesting season.
- g) When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors.
- h) Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site.
- i) Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor.
- j) Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation.
- k) Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).
- l) When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches.
- m) Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA's Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities.

- n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.
- o) Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in **MM-BIO-1(b)**, where applicable:
- Wildlife movement buffer zones
 - Corridor realignment
 - Appropriately spaced breaks in center barriers
 - Stream rerouting
 - Culverts
 - Creation of artificial movement corridors such as freeway under- or overpasses
 - Other comparable measures
- p) Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level

mitigation measures, this PEIR finds impacts on wildlife movement could be significant and unavoidable even with implementation of mitigation..

Impact BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects as well as land use and transportation strategies identified in the Plan have the potential to conflict with local policies and ordinances related to biological resources. Conflicts may arise when projects included in the Plan, or growth that occurs as a result of the Plan, involve the disturbance or removal of trees or other vegetation protected under city or county ordinances.

Strategies in the Plan focus growth in urban areas such as HQTAs, suburban town centers, and walkable communities. This type of compact development consumes less land and, therefore, results in less habitat loss and fewer conflicts with local policies or ordinances protecting biological resources. Nonetheless, impacts are expected to occur because many natural land areas near the edge of existing urbanized areas are vulnerable to development pressure, and transportation projects aimed to improve accessibility might require expansion in existing urbanized areas, or facilitate growth into urbanizing areas. Many urban areas have local ordinances to protect trees, as such the potential for conflicts with tree preservation policies exists not just in undeveloped area but can often occur in urban areas. As infill development increases, there may be pressure to develop on sites with protected trees. Similarly, as density increases, there may be pressure to develop more of a site, whereas previously a development project maybe could have been planned around protected trees. Although many tree preservation ordinances require planting of new trees (i.e., at one to one or greater ratios) to replace the removed trees, smaller infill sites do not always have sufficient space to accommodate more or larger trees. As such, impacts could occur.

Except for Orange County, each county within the SCAG region has ordinances regulating the removal of native trees and plants. Impacts within 500 feet of major transportation projects included in the Plan occur in unincorporated areas of all six counties that would be subject to the jurisdiction of the individual county general plans and ordinances (**Table 3.4-21, Unincorporated Areas Subject to County General Plans Potentially Affected by the Connect SoCal Major Transportation Projects**). Any conversion of land from open space or removal of protected trees or vegetation in these areas has the potential to conflict with local plans and ordinances. Applicable policies to protect biological resources are articulated in general plans for each county as well as the 191 cities. Many of the general plans in the SCAG region have additional provisions for protection of mature native and landscape trees and requirements for revegetation of landscaped areas using native plants. Each project would be subject to, and have the

potential to conflict with, the policies and ordinances applicable to the local government with jurisdiction over the project location. As discussed in **Section 3.2, Agriculture and Forestry**, major transportation projects included in the Plan would occur within, and may result in impacts to, the Angeles National Forest and the San Bernardino National Forest and may conflict with the provisions of the Angeles Forest Plan and the San Bernardino National Forest Land Management Plan, respectively.

Table 3.4-21
Unincorporated Areas Subject to County General Plans Potentially Affected by the
Connect SoCal Major Transportation Projects.

County	Acres within Unincorporated County Boundaries Subject to County General Plans, Policies, and Ordinances
Imperial	598
Los Angeles	10,578
Orange	217
Riverside	6,909
San Bernardino	4,018
Ventura	377
Total	22,697

Source:

LAFCO City Boundaries, 2016 and County Boundaries 2016

Note: These data were reviewed by local jurisdictions and reflect each jurisdiction's input

The level of impact related to conflicts with local policies and ordinances protecting biological resources will vary on a project-by-project basis. For example, grade separation projects, rail projects or land use development located in areas with a high density of native trees protected by a local tree protection ordinance would be anticipated to have greater conflicts with local policies and ordinances protecting biological resources than a traffic signal synchronization or lane-restriping project located in an urban environment.

The Plan would have the potential to result in significant impacts related to conflicts with local policies and ordinances protecting biological resources, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM BIO-1**, **SMM BIO-2** and **SMM BIO-3**.

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-4**.

PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources. Such measures may include the following or other comparable measures identified by the Lead Agency.

- a) Consult with the appropriate local agency responsible for the administration of the policy or ordinance protecting biological resources.
- b) Prioritize retention of trees on-site consistent with local regulations. Provide adequate protection during the construction period for any trees that are to remain standing, as recommended by an International Society of Arboriculture (ISA) certified arborist.
- c) If specific project area trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," obtain approval for encroachment or removals through the appropriate entity, and develop appropriate mitigation measures at that time, to ensure that the trees are replaced. Mitigation trees shall be locally collected native species, as directed by a qualified biologist.
- d) Appoint an ISA certified arborist to monitor construction activities that may occur in areas with trees are designated as "Protected Trees," "Landmark Trees," or "Heritage Trees," to facilitate avoidance of resources not permitted for impact. Before the start of any clearing, excavation, construction or other work on the site, securely fence off every protected tree deemed to be potentially endangered by said site work. Keep such fences in place for duration of all such work. Clearly mark all trees to be removed.

- e) Establish a scheme for the removal and disposal of logs, brush, earth and other debris that will avoid injury to any protected tree. Where proposed development or other site work could encroach upon the protected perimeter of any protected tree, incorporate special measures to allow the roots to breathe and obtain water and nutrients. Minimize any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter. Require that no change in existing ground level occur from the base of any protected tree at any time. Require that no burning or use of equipment with an open flame occur near or within the protected perimeter of any protected tree.
- f) Require that no storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees occur from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. Require that no heavy construction equipment or construction materials be operated or stored within a distance from the base of any protected trees. Require that wires, ropes, or other devices not be attached to any protected tree, except as needed for support of the tree. Require that no sign, other than a tag showing the botanical classification, be attached to any protected tree.
- g) Thoroughly spray the leaves of protected trees with water periodically during construction to prevent buildup of dust and other pollution that would inhibit leaf transpiration, as directed by the certified arborist.
- h) If any damage to a protected tree should occur during or as a result of work on the site, the appropriate local agency will be immediately notified of such damage. If, such tree cannot be preserved in a healthy state, as determined by the certified arborist, require replacement of any tree removed with another tree or trees on the same site deemed adequate by the local agency to compensate for the loss of the tree that is removed. Remove all debris created as a result of any tree removal work from the property within two weeks of debris creation, and such debris shall be properly disposed of in accordance with all applicable laws, ordinances, and regulations. Design projects to avoid conflicts with local policies and ordinances protecting biological resources
- i) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the applicable policy or ordinance shall be developed, such

as to support issuance of a tree removal permit. The consideration of conservation measures may include:

- Avoidance strategies
- Contribution of in-lieu fees
- Planting of replacement trees
- Re-landscaping areas with native vegetation post-construction
- Other comparable measures developed in consultation with local agency and certified arborist.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the number of transportation projects and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts arising out of conflicts with local policies and ordinances protecting biological resources could be significant and unavoidable even with implementation of mitigation..

Impact BIO-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a potential to result in conflicts with the provisions of applicable adopted HCPs and NCCPs because some planned major transportation projects and development projects may occur in or adjacent to lands protected under these plans, constituting a significant impact. Regional land use strategies identified in the Plan seek to reduce conflicts with the provisions of adopted HCPs and NCCPs by focusing new growth in existing urban areas, suburban town centers, and urban areas which are conducive to more compact, densified, infill and mixed-used development. Additionally,

land use strategies aim to preserve natural habitat areas and support redirecting growth away from high value habitat areas to these urbanized areas.

Major transportation projects included in the Plan have the potential to impact land within 13 HCPs/NCCPs in the SCAG region for which GIS data was publically available (**Table 3.4-22, HCP's and NCCP's Potentially Affected by the Connect SoCal Major Transportation Projects**).

**Table 3.4-22
HCP's and NCCP's Potentially Affected by the
Connect SoCal Major Transportation Projects**

HCP/NCCP	Imperial	Los Angeles	Orange	Riverside	San Bernardino
City of Rancho Palos Verdes		X			
Coachella Valley Multiple Species				X	
County of Orange Central/Coastal Subregion			X		
Desert Renewable Energy Conservation Plan	X	X		X	X
Imperial Irrigation District	X				
Lower Colorado River Multi-Species Conservation Program				X	
Orange County Southern Subregion			X		
Orange County Transportation Authority		X	X		
San Diego County Water Authority			X	X	
San Diego Gas and Electric Subregional			X		
Town of Apple Valley Multi-Species Conservation Plan					X
West Mojave Coordinated Management Plan		X			X
Western Riverside County Multiple Species				X	X

Source: SWCA Environmental Consultants. *Biological Resources Report for Connect SoCal PEIR*. October 2019.

California Department of Fish and Wildlife. 2017. *Summary of Natural Community Conservation Plans (NCCP)*. October. Available online at: <https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans>.

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Southern California Association of Governments GIS Data. 2019. *Major_Highway_Project_PEIR_082119.gdb, DraftRTP_2045Plan_Transit, and a2040_Urban_Rail_New*.

Implementation of Plan projects within areas of adopted HCPs and NCCPs may result in significant impacts. Potential impacts include direct impacts to lands protected under these HCPs and NCCPs as

well as potential direct and indirect impacts to plant and animal species and their habitats and connectivity of these habitats afforded protection under these HCPs and NCCPs through conversion of habitat, introduction of invasive species, habitat fragmentation, increased noise, introduction of lighting and noise during construction and operation. At least four HCPs and NCCPs located within the SCAG region contain known provisions for the construction of transportation projects as part of plan-covered activities, acknowledging that such projects normally constitute significant impacts, and specifying the requirement for mitigation measures. These HCP/NCCPs (Coachella Valley MSHCP, Orange County Transportation Authority NCCP/HCP, West Mojave HCP, and Western Riverside County MSHCP) include considerations for the development of transportation projects as part of plan-covered activities and would be significantly impacted by transportation projects included in the Plan. Therefore, implementation of the Plan could result in significant impacts related to conflicts with the provisions of four adopted HCPs and NCCPs applicable to the SCAG region, and may conflict with other plans, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM BIO-1, SMM BIO-2 and SMM BIO-3.

Project Level Mitigation Measures

See **PMM BIO-1** through **PMM BIO-5**.

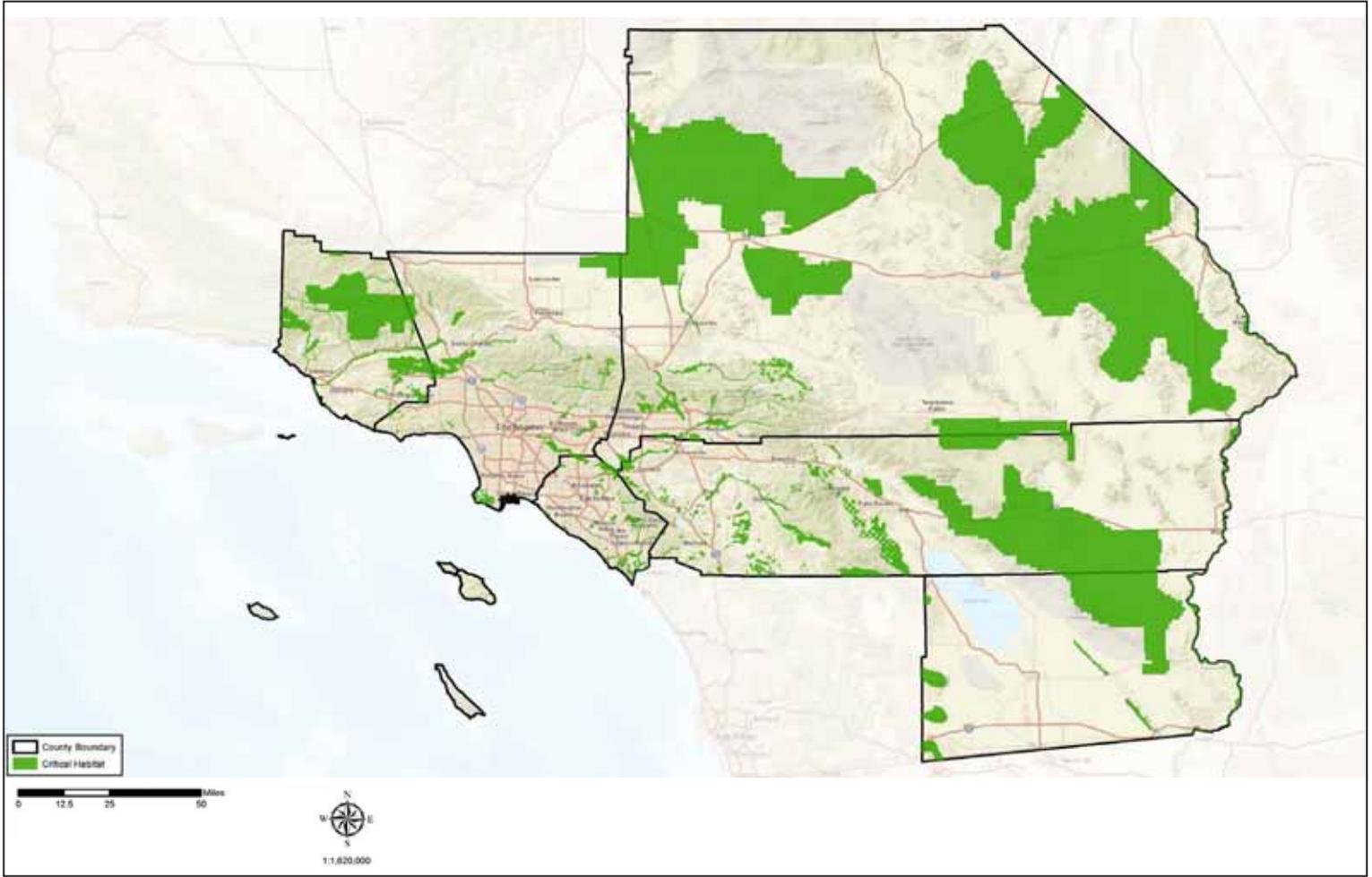
PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consult with the appropriate federal, state, and/or local agency responsible for the administration of HCPs or NCCPs.
- b) Wherever practicable and feasible, the project shall be designed to avoid lands preserved under the conditions of an HCP or NCCP.
- c) Where avoidance is determined to be infeasible, sufficient conservation measures to fulfill the requirements of the HCP and/or NCCP, which would include but not be limited to applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal Endangered Species Act or Section 2081 of the California ESA, shall be

developed to support issuance of an incidental take permit or any other permissions required for development within the HCP/NCCP boundaries. The consideration of additional conservation measures would include the measures outlined in SMM-BIO-2, where applicable.

Level of Significance after Mitigation

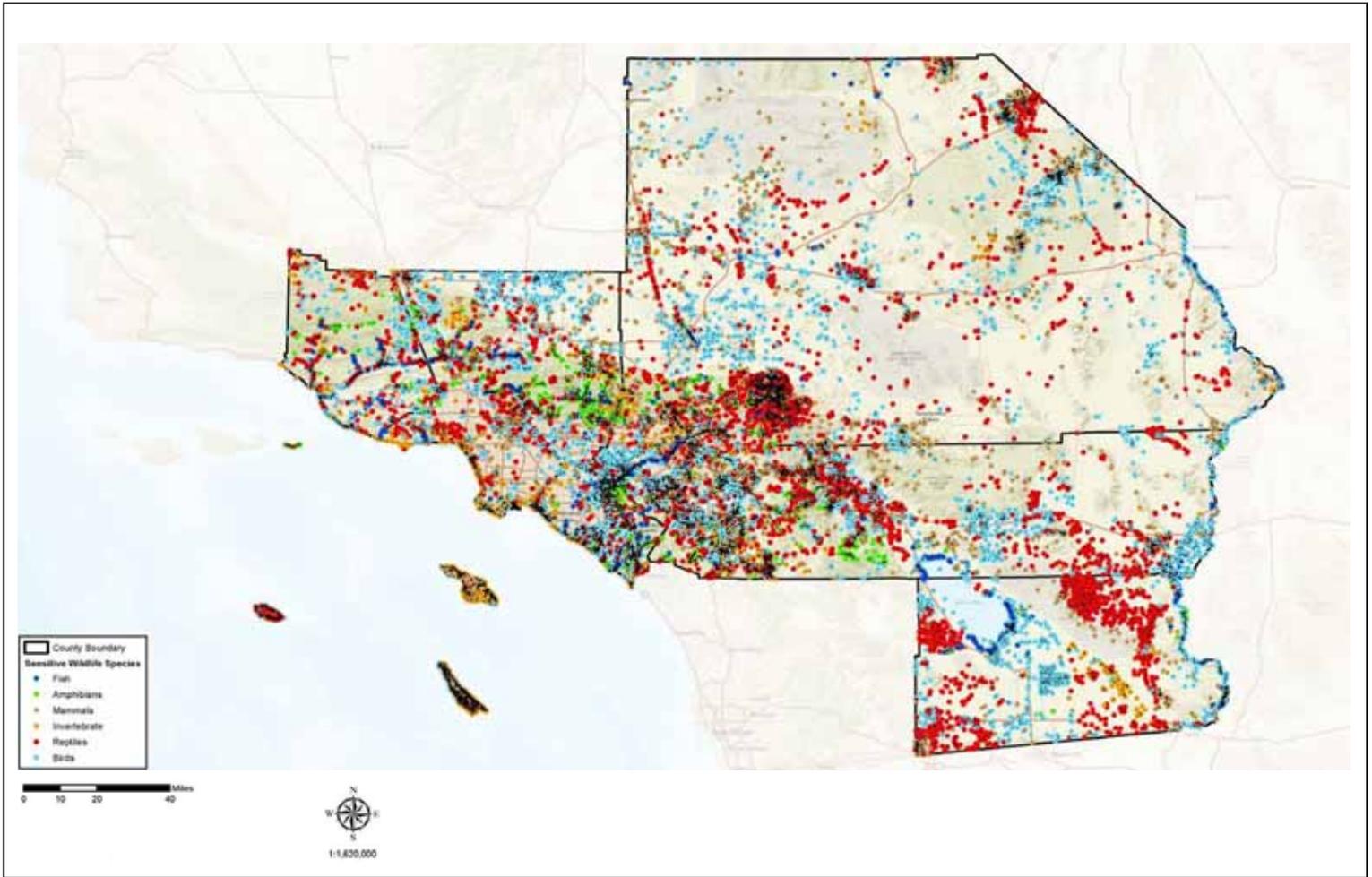
As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts on HCPs and NCCPs could be significant and unavoidable even with implementation of mitigation..



SOURCE: US Fish and Wildlife Service, SWCA, 2019

FIGURE 3.4-1

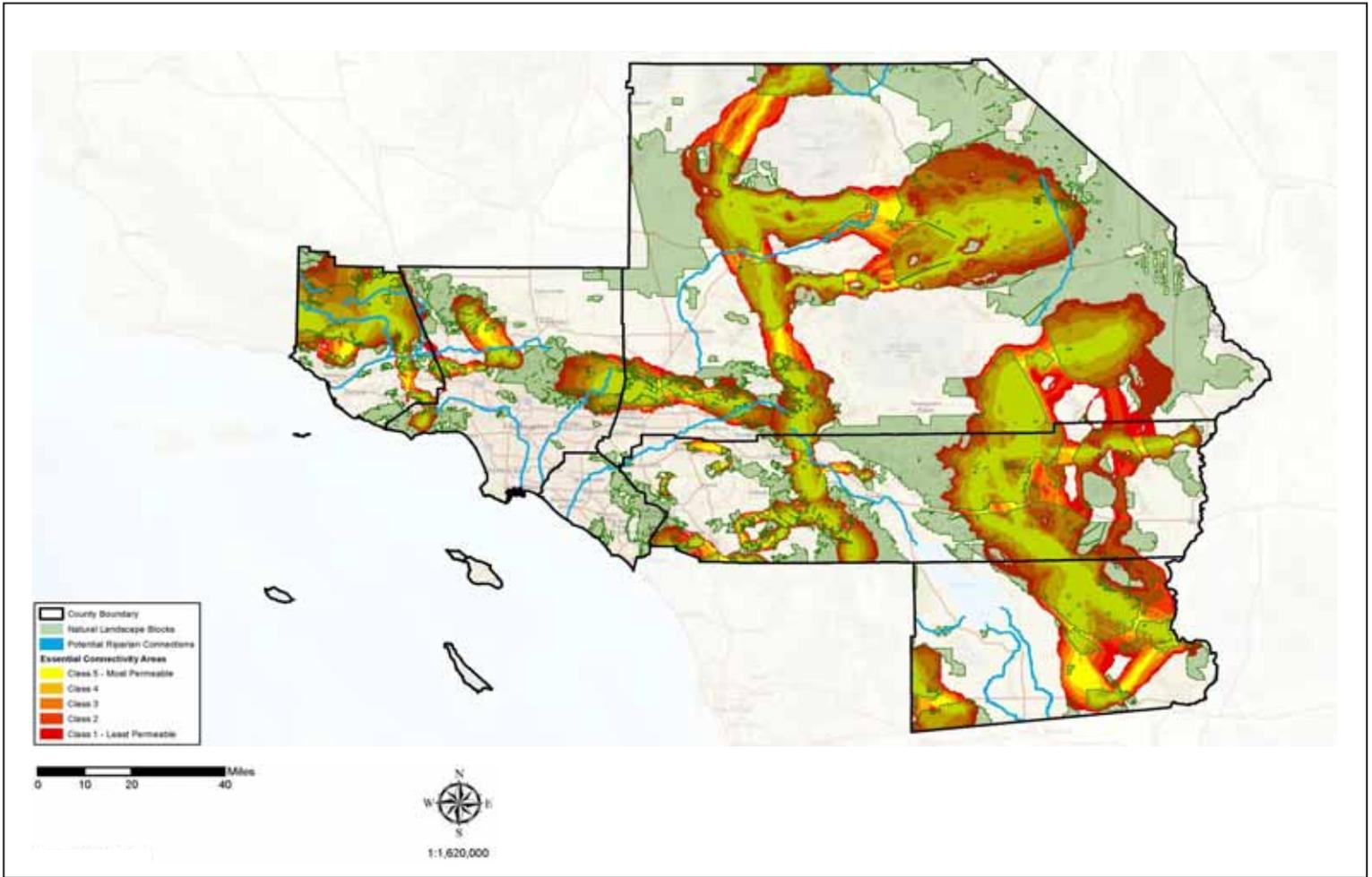
Designated Critical Habitat in the SCAG Region



SOURCE: SWCA, ESRI, 2018

FIGURE 3.4-2

Sensitive Wildlife Species Reported in the SCAG Region



SOURCE: SWCA, ESRI, 2018

FIGURE 3.4-2

Essential Habitat Connectivity within the SCAG Region

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3.5 CULTURAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes the existing cultural resources within the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern cultural resources, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

Tribal Cultural Resources are addressed in **Section 3.18, Tribal Cultural Resources**.

3.5.1 ENVIRONMENTAL SETTING

3.5.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for cultural resources are provided.

AD: The term Anno Domini (AD or A.D.) is used to label calendar years and is intended to be in relation to the beginning of the life of Jesus as a reference date.

Alluvium: An unconsolidated accumulation of stream-deposited sediments, including sands, silts, clays or gravels.

Archaeological site: Defined by the National Register of Historic Places (NRHP) as the place or places where the remnants of a past culture survive in a physical context that allows for the interpretation of these remains. Archaeological remains usually take the form of artifacts (e.g., fragments of tools, vestiges of utilitarian, or non-utilitarian objects), features (e.g., remnants of walls, cooking hearths, or midden deposits), and ecological evidence (e.g., pollen remaining from plants that were in the area when the activities occurred). The Office of Historic Preservation (OHP) defines an archaeological “site” as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum. These can include prehistoric (pre-European contact), historic (post-contact), or combination thereof.

BCE: The term BCE is the abbreviation for Before the Common Era, and is used to label calendar years, prior to the demarcation of AD.

BP: “Before present,” which is defined as before 1950 and is used by archaeologists in conjunction with the commonly used term, AD.

Cretaceous: An interval of time relating to, or denoting the last period of the Mesozoic era, between the Jurassic and Tertiary periods.

CE: The term Common Era (CE) is an alternative naming of the calendar era AD.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, including the time period from approximately 11,000 years ago to the present.

Historic period: The period that begins with the arrival of the first nonnative population and thus varies by area. In 1769, Gaspar de Portolá became the first European to enter the San Fernando Valley, initiating the historic period in the SCAG region.

Historical resource: Defined by CEQA as any object, building, structure, site (including archaeological sites), area, place, record, or manuscript that is listed in, or is eligible for listing in, the California Register of Historical Resources (CRHR); officially designated or recognized as historically significant by a local government pursuant to a local initiative or resolution; or identified as significant in a historic resource survey conducted in accordance with the requirements of the CRHR statute (PRC Section 5024.1(g)). Properties listed in, or determined eligible for listing in, the NRHP are automatically listed in the CRHR and are therefore historical resources under CEQA.

Isolate: An isolated artifact or small group of artifacts that appear to reflect a single event, loci, or activity. It may lack identifiable context but has the potential to add important information about a region, culture, or person. Isolates are not considered under CEQA to be significant and, thus, do not require avoidance or mitigation under CEQA. All isolates located during the field effort, however, are recorded, and the data are transmitted to the appropriate California Historical Resources Information System (CHRIS) Information Center.

Miocene: An interval of time relating to or denoting the fourth epoch of the Tertiary period, between the Oligocene and Pliocene epochs, from approximately 23 to 5.5 million years ago.

Native American sacred site: An area that has been, and often continues to be, of religious significance to Native American peoples, such as an area where religious ceremonies are practiced or an area that is

central to their origins as a people. They also include areas where Native Americans gather plants for food, medicinal, or economic purposes.

Oligocene: An interval of time relating to or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth's surface.

Paleocene: An interval of time, relating to, or denoting the earliest epoch of the Tertiary period, between the Cretaceous period and the Eocene epoch.

Phase I archaeological resources survey: A literature review (background research), consultation with the NAHC, and fieldwork. Fieldwork consists of a physical inspection of the cultural resources survey area, generally through pedestrian surveys, or by other means when appropriate. The purpose of the Phase I survey is to identify the cultural resources known or likely to be present in the initiative's impact area and in the immediate vicinity.

Phase II archaeological investigation: Consisting of testing and evaluation, is conducted when the results of a Phase I investigation indicate the presence of potentially significant cultural resources. Phase II investigations are intended to evaluate the historical significance of historic and prehistoric archaeological sites and require a comprehensive and detailed scope of work, a research design, and fieldwork. Surface and subsurface testing is conducted during Phase II investigations to collect the data necessary to establish historical significance of archaeological sites.

Phase III data recovery: Implemented on those archaeological sites that are determined to be significant as a result of the Phase II investigations and that cannot feasibly be avoided or preserved with initiative implementation. Phase III efforts typically involve the collection of data intended to answer scientific or research questions that have been formulated during Phase II testing and formalized by a comprehensive Phase III research design. Most commonly, Phase III data collections are implemented on sites determined to be significant as a means of mitigating the effects of an initiative through salvage, recordation, and archiving of scientific data associated with the site.

Pleistocene: An interval of time, relating to or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time, relating to or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic igneous rocks: Igneous rocks that have crystallized beneath the earth's surface.

Prehistoric period: The era prior to AD 1769. The later part of the prehistoric period (post-AD 1542) is also characterized as the protohistoric period in some areas, which marks a transitional period during which native populations began to be influenced by European presence resulting in gradual changes to their lifeways.

Quaternary: The most recent Period in geological time; includes the Pleistocene and Holocene Epochs.

Secretary of the Interior' Standards and Guidelines: The Standards are a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. The Guidelines offer general design and technical recommendations to assist in applying the Standards to a specific property. Together, they provide a framework and guidance for decision-making about work or changes to a historic property. The Standards and Guidelines can be applied to historic properties of all types, materials, construction, sizes, and use. They include both the exterior and the interior and extend to a property's landscape features, site, environment, as well as related new construction. Federal agencies use the Standards and Guidelines in carrying out their historic preservation responsibilities. State and local officials use them in reviewing both federal and nonfederal rehabilitation proposals. Historic district and planning commissions across the country use the Standards and Guidelines to guide their design review processes. The Standards offer four distinct approaches to the treatment of historic properties—preservation, rehabilitation, restoration, and reconstruction with Guidelines for each. The Standards for the Treatment of Historic Properties are regulatory for all grant-in-aid projects assisted through the national Historic Preservation Fund. The Standards for Rehabilitation, codified in 36 CFR 67, are regulatory for the review of rehabilitation work in the Historic Preservation Tax Incentives program. The Guidelines are advisory, not regulatory.

Unique Archeological Resource: Pursuant to Section 21083.2 of the PRC, a unique archaeological resource includes artifacts or sites that meet any one or all the following criteria:¹

- It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to California's past;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
- It has yielded, or may be likely to yield, information important to the prehistory or history of California.

¹ California Legislative Information. 1972. *Chapter 2.6. General [21080-21098], Section 21083.2*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=21083.2, accessed August 27, 2019.

3.5.2 EXISTING CONDITIONS

3.5.2.1. Cultural Context

A brief context statement is provided below. The cultural context is organized by three broad temporal-cultural periods: Prehistoric, Protohistoric, and Historic. The Prehistoric and Historic periods are further divided into chronological sequences. The Prehistoric period is discussed in terms of four “horizons” that were established in the mid-twentieth century and continue to be developed by archaeologists. The Prehistoric and Protohistoric periods are intended to reflect Native American history prior to Spanish presence in the SCAG region (Prehistoric period) and shortly after (Protohistoric period). The Prehistoric horizons are based primarily on archaeological data, whereas information from the Protohistoric period also includes oral history and historical records. The divisions within the Historic period are based strictly on the years of Spanish, Mexican, and American government administration. As a result, the Protohistoric period has some overlap with the Spanish period, the former being affiliated exclusively with Native Americans, the latter with Europeans or other non-Native Americans.

Prehistoric

In the last several decades, researchers have devised numerous prehistoric chronological sequences to aid in understanding cultural changes in southern California. Building on early studies and focusing on data synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region that is still widely used today and is applicable to near-coastal and many inland areas. Four horizons are presented in Wallace’s prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. The summary of prehistoric chronological sequences for southern California coastal and near-coastal areas presented below is a composite of information in Wallace (1955) and Warren (1968), as well as more recent studies using radiocarbon dates obtained by researchers in the last three decades, including Koerper and Drover (1983).

Horizon I: Early Man (ca. 10,000–6,000 BC)

The earliest accepted dates for archaeological sites on the southern California coast are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area approximately 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002). Present-day Orange and San Diego counties contain several sites dating from 9,000 to 10,000 years ago (Byrd and Raab 2007:219; Macko 1998:41; Mason and Peterson 1994:55–57; Sawyer and Koerper 2006). Although the dating of these finds remains controversial, several sets of human remains from the Los Angeles Basin (e.g., “Los Angeles Man,” “La Brea Woman,”

and the Haverty skeletons) apparently date to the Middle Holocene, if not earlier (Brooks et al. 1990; Erlandson et al. 2007:54).

Recent data from Horizon I sites indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002), and a greater emphasis on large-game hunting inland.

Horizon II: Milling Stone (6,000–3,000 BC)

Set during a drier climatic regime than the previous horizon, the Milling Stone horizon is characterized by subsistence strategies centered on collecting plant foods and small animals. The importance of the seed processing is apparent in the dominance of stone grinding implements in contemporary archaeological assemblages, namely milling stones (metates) and handstones (manos). Recent research indicates that Milling Stone horizon food procurement strategies varied in both time and space, reflecting divergent responses to variable coastal and inland environmental conditions (Byrd and Raab 2007:220).

Horizon III: Intermediate (3,000 BC–AD 500)

The Intermediate horizon is characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. An increasing variety and abundance of fish, land mammal, and sea mammal remains are found in sites from this horizon along the California coast. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks became part of the toolkit during this period. Mortars and pestles became more common during this period, gradually replacing manos and metates as the dominant milling equipment and signaling a shift away from the processing and consuming of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988).

Horizon IV: late Prehistoric (AD 500–Historic Contact)

In the Late Prehistoric horizon, there was an increase in the use of plant food resources in addition to an increase in land and sea mammal hunting. There was a concomitant increase in the diversity and complexity of material culture during the Late Prehistoric horizon, demonstrated by more classes of artifacts. The recovery of a greater number of small, finely chipped projectile points suggests increased use of the bow and arrow rather than the atlatl (spear thrower) and dart for hunting. Steatite cooking vessels and containers are also present in sites from this time, and there is an increased presence of smaller bone and shell circular fishhooks; perforated stones; arrow shaft straighteners made of steatite; a variety of bone tools; and personal ornaments such as beads made from shell, bone, and stone. There was also an increased use of asphalt for waterproofing and as an adhesive.

By AD 1000, fired clay smoking pipes and ceramic vessels were being used at some sites (Drover 1971, 1975; Meighan 1954; Warren and True 1961). The scarcity of pottery in coastal and near-coastal sites implies that ceramic technology was not well developed in that area, or that occupants were trading with neighboring groups to the south and east for ceramics. The lack of widespread pottery manufacture is usually attributed to the high quality of tightly woven and watertight basketry that functioned in the same capacity as ceramic vessels.

During this period, there was an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955:223). Large populations and, in places, high population densities are characteristic, with some coastal and near-coastal settlements containing as many as 1,500 people. Many of the larger settlements were permanent villages in which people resided year-round. The populations of these villages may have also increased seasonally.

In Warren's (1968) cultural ecological scheme, the period between AD 500 and European contact, which occurred as early as 1542, is divided into three regional patterns: Chumash (Santa Barbara and Ventura counties), Takic/Numic (Los Angeles, Orange, and western Riverside counties), and Yuman (San Diego County). The seemingly abrupt introduction of cremation, pottery, and small triangular arrow points in parts of modern-day Los Angeles, Orange, and western Riverside counties at the beginning of the Late Prehistoric period is thought to be the result of a Takic migration to the coast from inland desert regions. Modern Gabrielino, Juaneño, and Luiseño people in this region are considered the descendants of the Uto-Aztecan, Takic-speaking populations that settled along the California coast in this period.

Protohistoric

The Protohistoric period does not have a clear chronological timeline but may be defined by the boundaries of 500 to approximately 1600. Although early Spanish explorers and mission fathers recorded information on the local Native American populations, professional anthropological studies did not begin until the end of the 19th century after most of the Indian groups had been decimated by genocide, mixed with other Indigenous groups, were assimilated by Spanish, Mexican, and American cultures, or were forced to relocated to reservations.

The SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political boundaries. Moreover, many tribal boundaries overlapped, and most groups migrated within their general boundaries throughout the years.

Between 1851 and 1852 federal agents, negotiated 18 treaties that included 139 tribes, to establish reservation lands across almost a third of California. The treaties were not ratified by Congress, and as a rule, Congress no longer negotiated with American Indians from 1871. However, the federal government continued the policy of forced migration and established a number of reservations in Southern California between 1875 and 1891. In all 17 reservations were established within the SCAG region, within Imperial, Riverside, and San Bernardino Counties. Riverside County holds the most, including Chemehuevi, Fort Mojave, Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission Creek, and Morongo. Within Imperial County are the Martinez, Fort Yuma, and Colorado River reservations. The two reservations in San Bernardino County are the San Manuel and Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties as it was believed that the local Native American groups in those counties had become extinct.

Historic

Post-contact history for the state of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the Spanish period in California began with the establishment of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain marks the beginning of the Mexican period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American period, when California became a territory of the United States.

Spanish Period (1769–1821)

Spanish explorers made numerous expeditions into California between the mid-1500s and mid-1700s. In the process of delivering supplies to another expedition, Hernando de Alarcon followed the Colorado River in 1540 and reached what is now Andrade in Imperial County. Two years later, in search of the legendary Northwest Passage, Juan Rodríguez Cabrillo stopped in 1542 at present-day San Diego Bay. With his crew, Cabrillo explored the shorelines of present Catalina Island as well as San Pedro and Santa Monica Bays. Much of the present California and Oregon coastline was mapped and recorded in the next half-century by Spanish naval officer Sebastián Vizcaíno. Vizcaíno's crew also landed on Santa Catalina Island and at San Pedro and Santa Monica Bays, giving each location its long-standing name. The Spanish crown laid claim to California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1886:96–99; Gumprecht 2001:35).

More than 200 years passed before Spain began the colonization and inland exploration of Alta California. With the renewed interest into the area by other European nations, such as Britain, France,

and Russia, who all sent expeditions into the area, Spain officially moved to settle the territory. The 1769 overland expedition by Captain Gaspar de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. With a band of 64 soldiers, missionaries, Baja (lower) California Native Americans, and Mexican civilians, Portolá established the Presidio of San Diego, a fortified military outpost, as the first Spanish settlement in Alta California. In July 1769, while Portolá was exploring Southern California, Franciscan Fr. Junípero Serra founded Mission San Diego de Alcalá at Presidio Hill, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823.

These missions were part of the Spanish plan that included the settlement of three pueblos and four presidios, that would provide Spain control over Alta California. While one of the pueblos, Branciforte would fail, the other aspects of this plan would be successful.

Mexican Period (1822–1848)

A major emphasis during the Spanish period in California was the construction of missions and associated presidios to integrate the Native American population into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns, but just three pueblos were established during the Spanish period, only two of which were successful and remain as California cities (San José and Los Angeles). Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants.

Extensive land grants were established in the interior during the Mexican period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos.

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. Many newcomers were Americans that had traveled west and

married into landed families. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

An attempted northern California revolt in 1846, was quickly stopped, but the American Navy arrived soon after, and on January 13, 1847, Governor Pio Pico and Commander Jose Maria Flores officially surrender to US Captain John C. Fremont. The Treaty of Guadalupe Hidalgo in 1848 was the end of Mexican rule in California.

American Period (1848–Present)

The Mexican–American War officially ended with the Treaty of Guadalupe Hidalgo in 1848, which resulted in the annexation of California and much of the present-day southwest, ushering California into its American period. While gold was first found by Francisco Lopez in 1842 within Placerita Canyon, it wasn't until James Marshall's gold find in 1848 that the Gold Rush began, drastically changing California.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as U.S. territories. With Statehood and the population boom, legal battles over the land rights of the rancho's were prevalent. By the time American courts decided upon each case, many of the ranches had already be lost by their original Mexican landowners, through deceit, debt, or marriage.

With the huge influx of people seeking gold, the cattle industry flourished as cattle were no longer desired mainly for their hides, but also as a source of meat and other goods. During the 1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom. Cattle were at first driven along major trails or roads such as the Gila Trail or Southern Overland Trail, then were transported by trains when available. The cattle boom ended for southern California as neighbor states and territories drove herds to northern California at reduced prices. Operation of the huge ranchos became increasingly difficult, and droughts severely reduced their productivity (Cleland 1941). With that, many of the rancho lands were transformed to agricultural fields.

The connection of California to the rest of the United States by rail in the 1870s resulted in another population boom, as well as a land boom. Towns began to be established along rail lines, and with them additional mineral deposits were identified and mined. These mining camps existed for only short periods of time before being abandoned.

3.5.2.2. Existing Conditions

This section characterizes the existing conditions related to cultural resources in the SCAG region, which encompasses an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The discussion of cultural resources includes archaeological resources associated with various time periods, as well as non-archaeological resources such as buildings, structures, and other elements of the historical built environment.

Historical and Archeological Resources

Historical resources are defined in Section 15064.5(a) of the *State CEQA Guidelines* and are evaluated according to the provisions of Section 15126.4 of the *State CEQA Guidelines*. Furthermore, AB 52 requires that CEQA lead agencies consider the effects of projects on tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, existing in developed areas of a community, where development occurred prior to enactment of CEQA.

Archaeological resources consist of the physical remains of past human activity, and the occupation of Southern California by humans for thousands of years has created innumerable such resources. If an archeological resource is determined to be a historical resource as defined in Section 15064.5(a) of the *State CEQA Guidelines*, it is evaluated in light of the provisions of Section 15126.4 of the *State CEQA Guidelines*. If the resource is not a historical resource but meets the definition of a unique archeological resource as established in Section 21083.2 of the PRC, the site is required to be treated in accordance with the provisions of Section 21083.2 of the PRC. For projects that are subject to the provisions of AB 52 (i.e., when a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report are prepared), consideration must include archeological resources that are determined to be tribal cultural resources. Such resources may be underrepresented in the record and archival information available in the information centers, as they may be present in existing developed areas, developed prior to enactment of CEQA.

As of July 2019, over 109,000 archaeological resource locations have been identified in the SCAG region (**Table 3.5-1, Archeological Resources Listed in the California Historical Resources Information System [CHRIS]**). In order to protect these archaeological sites, and the artifacts contained within their boundaries, from scavenging and looting, their locations are confidential. Under state law, detailed information about these sites, especially their location, is considered confidential.

**Table 3.5-1
Archeological Resources Listed in the California Historical Resources Information System (CHRIS)**

County	Archeological Resources	Archeological Resources Listed in CHRIS
Imperial*	12,398	16,500 (approx.)
Los Angeles	4,886	18,599
Orange	1,775	5,498
Riverside**	20,200 (approx..)	28,612
San Bernardino	8,236	36,924
Ventura	1,864	3,226
SCAG Region Total	49,359	109,359

Source:

SWCA Environmental Consultants, Inc. (2019).

* The SCIC database is currently being revised and the count of total resources is an approximation based on current listings. The number of resources with archaeological components is taken from the 2016 General Plan, Open Space & Conservation Element. The total number of resources was approximated by SCIC staff and provided to SWCA via email on July 1, 2019.

** The EIC database is not currently configured to distinguish historic-period archaeological resources from non-archaeological historic resources (i.e., buildings, structures, etc.). Instead, the EIC provided tallies of resources with components dating to the respective periods as follows: 13,993 Prehistoric archaeological sites; 1 Protohistoric archaeological site; 15,313 Historic period cultural resources (archaeological sites and historic resources); 202 sites of unknown cultural or temporal affiliation. Because an individual resource may have components that fall into multiple periods, the sum of all resources listed for each period is greater than the total number of resources. The total number of archaeological sites was estimated for Riverside County to allow for comparison with other counties across the SCAG region. This was done for Riverside County by taking the 13,994 archaeological sites listed as Prehistoric and Protohistoric (because these resources can only be archaeological sites) and adding an estimated fraction of those listed as Historic and Unknown Period, which could consist of historic resources (i.e., non-archaeological). The estimate provided here assumes 40 percent of those resources listed as Historic or Unknown Period have archaeological components that are not multi-component resources (and already tallied as Prehistoric or Protohistoric).

Due to the proprietary nature of archaeological information, the exact location of most of these locales cannot be discussed. However, some of the sites have been made public in county, regional, state, and federal parks, or listed on public registers:

- The site of the Puvunga India Village (NR) Los Angeles County
- Vasquez Rocks (NR) Los Angeles County
- Black Star Canyon Indian Village Site (CHL-217) Orange County
- Fairview Indian Site (NR) Orange County
- Desert Intaglios (CHL-101) Riverside County
- Site of the Indian Village of Pochea (CHL-104) Riverside County
- Carved Rock (CHL-187) Riverside County
- Painted Rock (CHL-190) Riverside County
- The Hemet Maze (CHL-557) Riverside County
- The Calico “Early Man” Site San Bernardino County
- Anacapa Island Archaeological District (NR) Ventura County

The SCAG region was occupied during both the prehistoric and protohistoric periods; therefore, archaeological sites are widespread and numerous. Rock outcrops, river and stream drainages, and coastal strips were often prime locations for Native American village sites or processing camps. These locations now include highly urbanized locations, such as cities, and undeveloped areas of the high desert. Often archaeological sites are covered by three feet or more of topsoil; however, it is possible that construction may not disturb the surface soils by more than a foot or two, thereby protecting remains even after an area has been fully urbanized. In 1998, a large undisturbed Native American burial ground, dating from the Protohistoric Period, was exposed during construction at the ARCO Refinery in Los Angeles. The refinery had been there for 75 years, yet the burial level was located under three to five feet of flood deposits from the nearby Los Angeles River.²

There are numerous historical resources that have been listed or determined eligible for listing in the National Register of Historic Places and/or the California Register of Historical Resources. These historical sites are generally open to the public. Additionally, registries are maintained by counties, cities, and local historical societies within the SCAG region. There are more than 85,000 listings in the NRHP, of which 1,123 are located in the SCAG region (**Table 3.5-2, National Register of Historic Places Properties within the SCAG Region**). A complete listing is provided in **Appendix 3.5, Cultural Resources Technical Report**.

**Table 3.5-2
National Register of Historic Places Properties within the SCAG Region**

County	Listed	Approved	Accepted	Eligible	Total
Imperial	10	0	0	13	23
Los Angeles	564	2	1	142	709
Orange	124	0	0	17	141
Riverside	87	0	0	7	94
San Bernardino	69	0	0	34	103
Ventura	37	0	0	16	59
Total	891	2	1	229	1,123

Source:

National Park Service, National Historic Landmarks Program. Accessed August 2019. National Historic Landmarks Survey. Available at: <https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm>

Also recognized by the federal government are NHLs. These are districts, sites, buildings, structures, and objects that the Secretary of the Interior has determined to be significant to the nation's history and

² Bonner, Wayne H. Human Burials. *W.H. Bonner and Associates*. Available online at: <https://scahome.org/publications/proceedings/Proceedings.13BonnerW1.pdf>, accessed August 27, 2019.

culture or illustrate events or places that were important contributions to the historical development of the United States. There are currently over 2,500 listings in the NHL Database of which 29 are located in the SCAG region (**Table 3.5-3, National Historic Landmarks within the SCAG Region**). A full accounting of these landmarks is located within **Appendix 3.5**.

**Table 3.5-3
National Historic Landmarks within the SCAG Region**

County	Structure	Building	Site	District	Total
Imperial	0	0	0	0	0
Los Angeles	13	5	2	3	23
Orange	2	0	0	0	2
Riverside	2	0	0	0	2
San Bernardino	0	1	0	0	1
Ventura	0	0	0	1	1
Total	17	6	2	4	29

Source:

National Park Service, National Historic Landmarks Program. Accessed August 2019. National Historic Landmarks Survey. Available at: <https://www.nps.gov/subjects/nationalhistoriclandmarks/list-of-nhls-by-state.htm>

The State of California keeps a record of districts, places, sites, and buildings determined to hold historic or prehistoric significance. Two registers, administered by the California OHP and the SHRC, are part of the California Department of Parks and Recreation. There are over 1,000 listings in the register of CHL, of which 226 are located in the SCAG region (**Table 3.5-4, California Historical Landmarks within the SCAG Region**), and with the CPHI, there are 850 listings, of which 284 are located in the SCAG region (**Table 3.5-5, California Points of Historical Interest within the SCAG Region**).

Table 3.5-4
California Historical Landmarks within the SCAG Region

County	Prehistoric, Protohistoric	Prehistoric, Protohistoric, Spanish	Prehistoric, Protohistoric, Mexican	Prehistoric, American	Protohistoric	Spanish	Mexican	American	Total
Los Angeles	0	0	0	0	0	4	1	9	14
Orange	1	1	0	1	0	17	13	71	104
Riverside	0	1	0	0	0	2	4	19	26
San Bernardino	5	1	1	0	1	3	4	12	27
Imperial	1	1	1	0	0	4	7	27	41
Ventura	0	0	0	0	0	7	4	3	14
Total	7	4	2	1	1	37	33	141	226

Source: OHP, 2019

**Table 3.5-5
California Points of Historical Interest within the SCAG Region**

County	Points of Historical Interest
Imperial	4
Los Angeles	64
Orange	21
Riverside	72
San Bernardino	119
Ventura	4
Total	284

Source: OHP, 2019

Historic places are also recorded and can be identified in county, city, and local registers. These resources are also under various ordinances specific to the county, city, or locality. City and county registers may also be maintained by various county and city commissions. Examples of these types of organizations include the Riverside County Historical Commission, the Santa Ana Historic Resources Commission, and the Santa Monica Landmarks Commission. Local groups have also created registries within their area of interest, generally at the community level. An example of such local registers is the Ontario Heritage, a local non-profit organization that aims to protect the historic and cultural resources of Ontario, California. Furthermore, several local cities and counties maintain historic districts. Projects within the borders of these districts are often subject to additional conditions and review by planning staff and historic commissions. A full detailing of these resources is located in **Appendix 3.5** (Tables C-1 through C-4) and (Table D-1).

Human Remains

Human remains in the SCAG region occur within the nearly 200 formal cemeteries in the six-county area and those interred outside of formal cemeteries. In the SCAG region, there are many circumstances in which human remains outside formal cemeteries could be encountered. In addition to existing formal cemeteries, many cemeteries have been relocated. While the goal of such relocation projects is to repatriate human remains to a new location, there have been instances where human remains have been encountered at the original location of a relocated cemetery during subsequent ground-disturbing activities. There is also a potential to find human remains that are the result of foul play. There are also burial features associated with historic settlements and other indigenous people. Burial features can range in complexity from a simple isolated inhumation (burial or cremation) to more elaborate interments containing numerous bodies. These features may represent specially designated interment areas or

remnants of larger archaeological sites. Burial associations can include shell beads and ornaments as well as ground and polished stone artifacts. In some areas, human burials are expected to be found in raised earthen mounds. Native American groups within the SCAG region varied in their burial practices with respect to interment and cremation.

3.5.3 REGULATORY FRAMEWORK

3.5.3.1 Federal

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S. Code [USC] 431–433), which aimed to protect important historic and archaeological sites, initiated historic preservation legislation. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbances that may be caused to archaeological sites.³ New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands.⁴

Historic Sites Act of 1935

The Historic Sites Act (16 USC 461–467) became law on August 21, 1935, and declared that it is national policy to “Preserve for public use historic sites, buildings, and objects of national significance.”⁵ The National Historic Preservation Act (NHPA) expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register.⁶ The

³ National Park Service. *American Antiquities Act of 1906, 16 USC 431-433*. Available online at: <https://www.nps.gov/history/local-law/anti1906.htm>, accessed August 27, 2019.

⁴ National Park Service. *Archaeological Resources Protection Act*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchRsrcsProt.pdf, accessed August 27, 2019.

⁵ National Park Service. *Historic Sites Act of 1935, 16 USC sec. 461-467*. Available online at: <https://www.nps.gov/history/local-law/hsact35.htm>, accessed August 27, 2019.

⁶ National Park Service. *National Historic Preservation Act of 1966, Public Law 102-575*. Available online at: <https://www.nps.gov/history/local-law/nhpa1966.htm>, accessed August 27, 2019.

Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).⁷

United States Department of Transportation Act of 1966 (Section 4(f))

Section 4(f) of the United States Department of Transportation (USDOT) Act of 1966 affords special protection to public recreational lands and facilities, including: local parks and school facilities that are open and available to the general public for recreational purposes; significant cultural resources; historical resources; and natural wildlife refuges. Federally funded transportation improvement projects are prohibited from the encroachment (direct or constructive use, or a take) of Section 4(f) lands unless it can be demonstrated that no feasible and prudent alternative exists.⁸

National Register of Historic Places (National Register)

The National Register recognizes properties that are significant at the national, state, and/or local levels. Although administered by the National Park Service, the federal regulations explicitly provide that National Register listing of private property “does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property.” Listing in the National Register assists in preservation of historic properties through: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally-assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a surface coal mining permit; and qualification for federal assistance for historic preservation, when funds are available. In addition, for projects that receive federal funding, a clearance process must be completed in accordance with Section 106 of the NHPA. Furthermore, state and local regulations may apply to properties listed in the National Register.⁹

The criteria for listing in the National Register follow the standards for determining if properties, sites, districts, structures, or landscapes of potential significance are eligible for nomination. In addition to meeting any or all of the following criteria, properties nominated must also possess integrity of location,

⁷ Federal Register. *Executive Order 11593 – Protection and enhancement of the cultural environment*. Available online at: <https://www.archives.gov/federal-register/codification/executive-order/11593.html>, accessed August 27, 2019.

⁸ U.S. Department of Transportation. *Section 4(f) of the Department of Transportation Act*. Available online at: <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/section-4f-department-transportation-act>, accessed August 27, 2019.

⁹ Government Publishing Office. 2019. *Title 36: Parks, Forests, and Public Property, Part 60 – National Register of Historic Places*. Available online at: <https://www.ecfr.gov/cgi-bin/text-idx?SID=c5a07c14e9b695af2ef0cae29b4b4f23&mc=true&node=pt36.1.60&rgn=div5>, accessed August 27, 2019.

design, setting, feeling, workmanship, association, and materials that¹⁰ a property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: It is associated with the lives of persons who are significant in our past;

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the “ability of a property to convey its significance” (NPS 1990). In order to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

Location: the place where the historic property was constructed or the place where the historic event occurred;

Design: the combination of elements that create the form, plan, space, structure, and style of a property;

Setting: the physical environment of a historic property;

Materials: the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

¹⁰ Ibid.

Feeling: a property's expression of the aesthetic or historic sense of a particular period of time;

Association: the direct link between an important historic event or person and a historic property.

Procedures for listing a property in the NRHP are outlined in Procedures for State, Tribal, and Local Government Historic Preservation Programs (36 CFR 61) and in Determinations of Eligibility for Inclusion in the National Register (36 CFR 63). The Secretary of the Interior's Professional Qualifications Standards for who is allowed to conduct cultural resources studies and evaluations are outlined in 36 CFR 61.

Procedures for artifact curation are noted in Curation of Federally Owned and Administered Archeological Collections (36 CFR 79) for artifacts recovered under the authority of the Antiquities Act (16 USC 431- 433), the Reservoir Salvage Act (16 USC 469-469c), Section 110 of the NHPA (16 USC 470h-2), or the ARPA (16 USC 470aa-mm).

National Landmarks Program

36 CFR 65 identifies and designates NHLs and encourages the long-range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States. The NPS administers the National Historic Landmarks Program on behalf of the Secretary of the Interior. Properties designated as NHLs are listed in the NRHP upon designation. All NHLs are NRHP Properties but not all NRHP Properties are NHLs. The criteria for designation as an NHL are similar to those for inclusion in the NRHP but are more stringent and have a greater emphasis on national significance. The Landmark Program Criterion 3, which does not have a counterpart in the NRHP regulations, applies to a resource that represents some great idea or ideal of the American people. Agencies should, to the maximum extent possible, minimize harm to NHLs affected by undertakings.

Archeology and Historic Preservation: Secretary of the Interior Standards and Guidelines

As established by 36 CFR 67, one recognized method for generally avoiding adverse effects to historic properties is following the Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings (Secretary's Standards). Created under Sections 101(f), (g), and (h), and Section 110 of the amended NHPA of 1966, the Secretary's Standards offer guidelines and approaches for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing additions or making alterations. Guidance is also provided for new construction adjacent to historic properties, in order to avoid adverse impacts to neighboring properties through a change in setting and feeling. In this way, the Secretary's Standards outline common-sense approaches that allow

for the retention of and/or sensitive changes to the distinctive materials and features that lend a historical resource its significance. These standards and guidelines are not regulatory in nature, nor do they set of interpret policy. Instead that serve as technical advice regarding archaeological and historic preservation procedures.

State CEQA Guidelines Section 15126.4(b)(1) states that a project determined to conform with the Secretary's Standards can generally be considered to be a project that will not cause material impairment to a historical resource. Nonconformance with the Secretary's Standards, however, does not uniformly result in material impairment to a historical resource, and some projects that do not comply with the Secretary's Standards do not cause a significant adverse impact. Project elements must be studied on a case-by-case basis, depending upon the resource and the reasons for its significance. However, projects that comply with the Secretary's Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on historic resources.

National Historic Preservation Act of 1966 (NHPA)

The NHPA, as amended (54 U.S.C. section 470 *et seq.*), established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes requirements (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. Under the Section 106 consultation process (36 CFR section 800 *et seq.*), federal agencies taking such actions are required to consult with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), local agencies, and Indian tribes, and avoid or mitigate adverse effects on National Register-listed or -eligible properties. Provisions of NHPA establish a National Register of Historic Places (National Register); see above for details.¹¹

Archaeological and Historic Preservation Act of 1974

Passed and signed into law in 1974, The Archaeological and Historic Preservation Act of 1974 (AHPA), 16 USC Section 469 *et seq.*) amended and expanded the Reservoir Salvage Act of 1960. The AHPA as amended requires that federal agencies provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of

¹¹ National Park Service. *National Historic Preservation Act of 1966 as amended through 1992*. Available online at: <https://www.nps.gov/history/local-law/nhpa1966.htm>, accessed August 27, 2019.

any alteration of the terrain caused by any federal construction project or federally-licensed activity or program.¹²

Archaeological Resources Protection Act of 1979

The ARPA (16 USC Section 470aa *et seq.*) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.¹³

American Indian Religious Freedom Act

AIRFA establishes U.S. policy to protect and preserve American Indian, Eskimo, Aleut, and Native Hawaiian freedom to believe, express, and exercise traditional religions and ways. This includes access to religious sites and the freedom to worship through ceremonial and traditional rites. Federal agencies must determine if policy and procedure changes are needed to protect such rights and freedoms. The act is aligned with the First Amendment guarantee of religious freedom. It is not implemented with regulations.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001 *et seq.*) protects human remains, funerary objects, sacred objects, and items of cultural patrimony of indigenous peoples on federal lands. NAGPRA stipulates priorities for assigning ownership or control of such cultural items excavated or discovered on federal or tribal lands, or in the possession and control of an agency that has received federal funding.

NAGPRA also provides for the repatriation of human remains and associated items previously collected from federal lands and in the possession or control of a federal agency or federally funded repository. Implementing regulations are codified in 43 CFR Part 10. In addition to defining procedures for dealing with previously collected human remains and associated items, these regulations outline procedures for negotiating plans of action or comprehensive agreements for treatment of human remains and associated items encountered in intentional excavations, or inadvertent discoveries on federal or tribal lands.

¹² National Park Service. *Archeological and Historic Preservation Act as Amended*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchHistPres.pdf, accessed August 27, 2019.

¹³ National Park Service. *The Archaeological Resources Protection Act of 1979 (ARPA)*. Available online at: <https://www.nps.gov/archeology/tools/Laws/ARPA.htm>, accessed August 27, 2019.

This regulation (last amended March 21, 2007) provides a Plan of Action (POA) for NAGPRA. To prevent work stoppages that last 30 days each time cultural items (as defined by NAGPRA) are encountered, it allows the responsible federal agency to create a POA to follow if these cultural items (as defined by NAGPRA) are encountered. POAs require consultation with the *appropriate Indian tribe or Native Hawaiian organization with respect to tribal lands, if known or readily ascertainable, and, in the case of lands that have been selected by an Alaska Native Corporation or group organized pursuant to the Alaska Native Claims Settlement Act of 1971*[43 USC 1601 et seq.], *the appropriate corporation or group* (25 USC 3002d).

3.5.3.2 State

California Implementation of Federally and State-Mandated Historic Preservation Program

The California OHP is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration and protection of California's irreplaceable archaeological and historical resources under the direction of the State Historic Preservation Officer (SHPO), a gubernatorial appointee, and the State Historical Resources Commission.

OHP's responsibilities include:

- Identifying, evaluating, and registering historic properties;
- Ensuring compliance with federal and state regulatory obligations;
- Encouraging the adoption of economic incentives programs designed to benefit property owners; and
- Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.

OHP reviews and comments on thousands of federally sponsored projects annually pursuant to Section 106 of the National Historic Preservation Act and state programs and projects pursuant to Sections 5024 and 5024.5 of the Public Resources Code (PRC). OHP also reviews and comments on local government and state projects pursuant to CEQA.

The purpose of OHP's project review program is to promote the preservation of California's heritage resources by ensuring that projects and programs carried out or sponsored by federal and state agencies comply with federal and state historic preservation laws and that projects are planned in ways that avoid any adverse effects to heritage resources. If adverse effects cannot be avoided, the OHP assists Lead Agencies in developing measures to minimize or mitigate such effects.

OHP administers the NRHP, the CRHR, the CHL, and the CPHI programs. Each program has different eligibility criteria and procedural requirements; all register nominations must be submitted to the Commission for review and approval.¹⁴

California Register of Historical Resources (California Register)

Created in 1992 and implemented in 1998, the CRHR is “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Sections 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and CHL numbered 770 and higher, are automatically included in the CRHR.

Other properties recognized under the CPHI program, identified as significant in historical resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.

Criterion 2: It is associated with the lives of persons important in our past.

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity does not meet NRHP criteria may still be eligible for listing in the CRHR.

¹⁴ Office of Historic Preservation. *About the Office of Historic Preservation*. Available online at: http://ohp.parks.ca.gov/?page_id=27961, accessed August 27, 2019.

California Historical Landmarks

CHL are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use were first applied in the designation of Landmark #770. CHL #770 and above are automatically listed in the CRHR.

To be designated as a CHL, a resource must meet at least one of the criteria listed below; have the approval of the property owner(s); be recommended by the State Historical Resources Commission; and be officially designated by the Director of California State Parks.

Criteria for Designation. To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Effects of Designation:

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code. Registration will be recorded on the property deed.
- Automatic listing in CRHR.
- Bronze plaque at site (underwritten by local sponsor) ordered through OHP; highway directional sign available through local Department of Transportation (Caltrans) district office.

California Points of Historical Interest

If a site is primarily of local interest, it may meet the criteria for the CPHI program. California Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest designated after December 1997 and

recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point. If a Point is subsequently granted status as a Landmark, the Point designation will be retired.

Criteria for Designation. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County).
- Associated with an individual or group having a profound influence on the history of the local area.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

Effects of Designation.

- Limited protection: Environmental review may be required under CEQA if property is threatened by a project. Contact your local planning agency for more information.
- Local assessor may enter into contract with property owner for property tax reduction (Mills Act).
- Local building inspector must grant code alternative provided under State Historic Building Code.
- Registration is recorded on property deed.
- A small enamel directional sign (no text) available through local Caltrans district office.
- Owner may place his or her own marker at the site.

California Public Resources Code, Sections 5097.5, 5097.9, 5097.98–99, and 50907.9

Section 5097.5 of the Public Resources Code defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In 1987, the Code was amended to require consultation with the California Native American Heritage Commission whenever Native American graves are found. It also established that violations for taking or possessing remains or artifacts are felonies.¹⁵

¹⁵ California Legislative Information. *Chapter 1.7. Archaeological, Paleontological, and Historic Sites [5097-5097.7], Section 5097.5.* Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=5097.5, accessed August 27, 2019.

Public Resources Code Section 5097.9 establishes the California Native American Heritage Commission to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid state agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally-administered lands in California.¹⁶

Public Resources Code sections 5097.98 through 5097.99 require that the Governor's California Native American Heritage Commission be consulted whenever Native American graves are found. According to these sections, it is illegal to take or possess remains or artifacts taken from Native American graves; however, it does not apply to materials taken before 1984. Violations occurring after January 1, 1988 are felonies.^{17,18}

Public Resources Code Section 50907.9 (Section 7050 of the Health and Safety Code) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased. PRC 5097.98(b) requires that landowners ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards of practices) are not damaged or disturbed by further development until the landowner has discussed and conferred with most likely descendants.¹⁹

¹⁶ California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.9*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=5097.9, accessed August 27, 2019.

¹⁷ California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.98*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=5097.98, accessed August 27, 2019.

¹⁸ California Legislative Information. *Chapter 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991], Section 5097.99*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC§ionNum=5097.99, accessed August 27, 2019.

¹⁹ California Legislative Information. *Chapter 2. General Provisions [7050.5-7055], Section 7050.5*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC§ionNum=7050.5, accessed August 27, 2019.

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) was enacted in 1976, four years after the Coastal Commission was created by Proposition 20. It requires the implementation of reasonable mitigations measures to protect archaeological resources as identified by the SHPO when development would adversely impact such resources.²⁰

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code (HSC) authorizes the Native American Heritage Commission (NAHC) to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.²¹

The State Historic Building Code (HSC; Sections 18950–18961) provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.²²

California Penal Code Section 622 – Destruction of Historical Properties

Penal Code Section 622 establishes that the willful injury, disfiguration, defacement, or destruction of any object, thing, or site, of archaeological or historical interest or value, as a misdemeanor. This applies to

²⁰ *Public Resources Code Division 20 California Coastal Act (2019)*. Available online at: <https://www.coastal.ca.gov/coastact.pdf>, accessed August 27, 2019.

²¹ California Legislative Information. *Chapter 2. General Provisions [7050.5-7055], Section 7050.5*. Available online at: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=HSC§ionNum=7050.5, accessed August 27, 2019.

²² California Legislative Information. *Part 2.7. State Historical Building Code [18950-18962]*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=HSC&division=13.&title=&part=2.7.&chapter=&article=, accessed August 27, 2019.

resources situated on both private and public land. Furthermore, Section 622.5 sets the applicable penalties for any such damage or removal of cultural resources.²³

Senate Bill 18 – Traditional Tribal Cultural Places

Signed into law in 2004, Senate Bill (SB) 18 requires that cities and counties notify and consult with California Native American tribes about proposed local land use planning decisions for the purpose of protecting traditional tribal cultural sites. Cities and counties must provide general and specific plan amendment proposals to California Native American tribes that the NAHC has identified as having traditional lands located within the city’s boundaries. If requested by the Native American tribes, the city must also conduct consultations with the tribes prior to adopting or amending their general and specific plans.

Assembly Bill 52

Assembly Bill 52 of 2014 (AB 52) amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Section 4 of AB 52 adds Sections 21074(a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

- 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - A. Included or determined to be eligible for inclusion in the CRHR.
 - B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria

²³ California Legislative Information. *Title 14. Malicious Mischief [594-625c], Section 622 ½*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PEN§ionNum=622½, accessed August 27, 2019.

set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1(a)(9) of AB 52 establishes that “a substantial adverse change to a tribal cultural resource has a significant effect on the environment.” Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures “capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource.” Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

Executive Order B-10-11

Executive Order B-10-11 establishes the states policy regarding Native American groups, including the recognition of their sovereign rights, and the states desire that all agencies subject to executive control is to encourage the communication and consultation with California Native tribes. Furthermore, in order to implement this policy, it created the position of Governor’s Tribal Advisor as part of the Office of the Governor of California. This position was established to serve as the direct link between the Governor’s Office and the numerous tribal governments regarding matters of policy, including legislation and regulation.

3.5.3.3 Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (**Table 3.5-6, County Policies and Ordinances Relevant to the SCAG Region**). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

**Table 3.5-6
County Policies and Ordinances Relevant to the SCAG Region**

County	County Policies and Ordinances
Imperial	Conservation and Open Space Element of General Plan Policy Numbers: Only one policy, Section IV.B.2 Policies Specific to Archaeological Resources: Yes, brief Policies Specific to Paleontological Resources: No Policies Specific to Historic Resources: No
Los Angeles	Chapter 9: Conservation and Natural Resources Element of General Plan Policy Numbers: C/NR 14.1 – C/NR 14.6 Policies Specific to Archaeological Resources: Yes, very brief Policies Specific to Paleontological Resources: Yes, very brief Policies Specific to Historic Resources: Yes, very brief
Orange	Chapter VI: Resources Element of General Plan Policy Numbers: Goals 1, 2 and 3, each with multiple policy numbers Policies Specific to Archaeological Resources: Yes, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: Yes, extensive
Riverside	Chapter 5: Multipurpose Open Space Element of General Plan Policy Numbers: 19.1 – 19.9 Policies Specific to Archaeological Resources: Yes, brief Policies Specific to Paleontological Resources: Yes, brief Policies Specific to Historic Resources: Yes
San Bernardino	Conservation Element (Subchapter C2) of General Plan Policy Numbers: CO 3.1 – CO 3.5 Policies Specific to Archaeological Resources: No – together with historic resources, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: No – together with archaeological resources, extensive
Ventura	Chapter 1: Resources (Subchapter 1.8) of General Plan Policy Numbers: 1 – 6 Policies Specific to Archaeological Resources: Yes, Policies 1-3 Policies Specific to Paleontological Resources: Yes, Policies 4 & 5 Policies Specific to Historic Resources: Yes, Policy 6

City General Plans and Ordinances

In accordance with Sections 65560 (g) and (i) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans.²⁴ Many city general plans have provisions for historic

²⁴ California Legislative Information. *Article 10.5. Open-Space Lands [65560-65570], Section 65560.* Available online at: https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=65560, accessed August 27, 2019.

districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

3.5.4 THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the *State CEQA Guidelines*, the Plan would have a significant impact related to cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; and/or
- Disturb any human remains, including those interred outside of dedicated cemeteries.

3.5.5 METHODOLOGY

Cultural Resources have been evaluated in accordance with Appendix G of the *State CEQA Guidelines*. Cultural resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region.

The methodology for determining the significance of cultural impacts compares the existing conditions to the future (2045) Connect SoCal conditions, as required by *CEQA Guidelines* Section 15126.2(a). The known historical, and archaeological resources located within the SCAG region were evaluated using the criteria set forth by the OHP, the California Register of Historic Resources, and the *State CEQA Guidelines*. The research analysis for archeological and historic was limited to state and federally recognized resources and landmarks, consistent with the definitions provided in Section 15064.5 of the *State CEQA Guidelines*.

All of the counties within the SCAG region are rich with fossil-bearing sedimentary formations and have been documented to contain historic and archaeological sites. All areas within the region have the potential for yielding yet undiscovered paleontological and archaeological resources. The development of new transportation facilities may affect archaeological resources, primarily through the disturbance of buried resources. Frequently, these resources are previously unidentified.

Nearly 50,000 archaeological resources have been identified in the SCAG region (see **Table 3.5-1**). Each of these sites is documented at an Archaeological Information Center, which holds location information on archaeological sites for each region in California. These known resources are limited to areas that have subject to various levels of research or investigation. Areas that have been subject to pedestrian surveys

or sub-surface explorations represent only a fraction of the total area with the potential to yield such resources. Therefore, the analysis focuses on the potential for major transportation projects to necessitate ground-disturbing activities in areas where significant archeological resources have been previously recorded or require work in sediments that have not been previously investigated.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0 Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.5.6 IMPACT ANALYSIS

Impact 3.5-1 Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5.

Significant and Unavoidable Impacts – Mitigation Required.

The Plan has the potential to effect more than 1,000 historical resources in the SCAG region, including the 1,123 sites listed in the NRHP (**Table 3.5-2 and Appendix 3.5**); 29 sites listed in the NHL (**Table 3.5-3 and Appendix 3.5**); 226 sites listed in the CHL (**Table 3.5-4 and Appendix 3.5**); and 284 listed in the CPHI (**Table 3.5-5 and Appendix 3.5**). In addition to historical sites that have been recognized in federal and state lists, there is the potential for the Plan to affect unrecognized historical resources (structures that exist whose historic value has not previously been assessed or documented). In more remote areas, or areas not previously subject to any type of survey, structures of historic importance may not be currently listed on state or federal registers. In urban areas some jurisdictions have not undertaken a detailed inventory of potential resources. In addition, over time, additional resources become eligible to be identified as historic. Therefore, potential exists for the Plan to affect unrecognized historical resources throughout the region.

In instances where buildings 50 years or older are located on or adjacent to a project site, it is important to evaluate these structures, in accordance with professional standards, as potential historical resources, to determine if they meet the criteria that would make them eligible for the NRHP or the CRHR. In general, it is recommended that, depending on circumstances, for new construction, the evaluation of the

potential for indirect and direct impacts to historical resources should extend 1,000 feet from new construction. However, the geography and circumstance of each site will affect the appropriate means and protocols for evaluation.

Projects that would have the potential to cause an impact to historical resources include transportation projects that entail the development of new lanes, tracks, arterials, or interchanges that may require the acquisition of new right-of-ways, as well as development projects influenced by the land use strategies in the Plan. Such projects may result in direct demolition of historical resources or more indirect impacts such as changing the aesthetic context of the resource and/or increasing levels of corrosive air contaminants that affect historical features, and/or project construction activity that can result in vibrations that damage to fragile buildings.

Transportation projects proposed in existing “rights of way,” such as high-occupancy vehicle (HOV) lanes, high- occupancy toll (HOT) lanes, bus rapid transit (BRT) and goods movement capacity enhancement projects, mixed flow lanes, and “right of way” maintenance (such as pot-hole repair) would have a limited potential to result in an impact to historic resources because they result in changes to existing facilities within an existing impact footprint. In circumstances where widening would occur, there would be greater potential for impacts, for example, by changing the view of a resource.

The Plan includes regional land use and transportation strategies that if implemented, may focus new growth in urbanized areas such as HQTAs. These include an expanded transit network, including multiple Metro Rail extensions and the first urban rail services in Orange County (OC Streetcar) and San Bernardino County (Redlands Rail/Arrow). New bus rapid transit and rapid bus routes will be implemented across Los Angeles, Orange, Riverside and San Bernardino Counties. On the land use side, the Plan includes the Regional Housing Supportive Infrastructure Initiatives that will help make it quicker and easier for local jurisdictions to plan and produce needed housing by implementing tax increment finance districts. Many urbanized areas are older urban or suburban town centers where structures of architectural or historical significance are likely to be located. Changes in visual character of a neighborhood both through increases in density and through the addition of new transportation infrastructure (such as elevated transit platforms) could alter the significance of a historical resource. Further, as development is focused in urban areas, there may be pressure to redevelop existing historical resources (or eligible resources) that may be of lower density than new development. Redevelopment of historic properties could result in significant impacts to historical resources.

In summary, construction of transportation projects and development projects anticipated to occur under the Plan could impact the physical and aesthetic integrity of historic buildings and communities. These effects would constitute a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM CULT-1: Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission to identify opportunities for early and effective consultation to identify archaeological sites, historical resources, and cemeteries to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Pursuant to *CEQA Guidelines* Section 15064.5, conduct a record search during the project planning phase at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historical resources were identified.
- b. During the project planning phase, retain a qualified architectural historian, defined as an individual who meets the Secretary of the Interior's (SOI) Professional Qualification Standards (PQS) in Architectural History, to conduct historic architectural surveys if a built environment resource greater than 45 years in age may be affected by the project or if recommended by the Information Center.
- c. Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the

impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:

- Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible.
 - Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources.
- d. If a project requires the relocation, rehabilitation, or alteration of an eligible historical resource, the Secretary of the Interior's Standards for the Treatment of Historic Properties should be used to the maximum extent possible to ensure the historical significance of the resource is not impaired. The application of the standards should be overseen by an architectural historian or historic architect meeting the SOI PQS. Prior to any construction activities that may affect the historical resource, a report, meeting industry standards, should identify and specify the treatment of character-defining features and construction activities and be provided to the Lead Agency for review and approval.
- e. If a project would result in the demolition or significant alteration of a historical resource eligible for or listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or local register, recordation should take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and should be performed by an architectural historian or historian who meets the SOI PQS. Recordation should meet the SOI Standards and Guidelines for Architectural and Engineering, which defines the products acceptable for inclusion in the HABS/HAER/HALS collection at the Library of Congress. The specific scope and details of documentation should be developed at the project level in coordination with the Lead Agency.

- f. During the project planning phase, obtain a qualified archaeologist, defined as one who meets the SOI PQS for archaeology, to conduct a record search at the appropriate Information Center of the California Historical Resources Information System (CHRIS) to determine whether the project area has been previously surveyed and whether resources were identified.
- g. Contact the NAHC to request a Sacred Lands File search and a list of relevant Native American contacts who may have additional information.
- h. During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. In the event the records indicate that no previous survey has been conducted, the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources.
- i. If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Archaeological materials collected from a significant resource should be curated with a recognized scientific or educational repository
- j. If a record search or archaeological assessment indicates that the project is located in an area sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, retain an archaeological monitor to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The

archaeological monitor should be supervised by an archaeologist meeting the SOI PQS

- k. Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated.
- l. Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant. If the archaeologist determines that the discovery is significant, it should be curated with a recognized scientific or educational repository.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations and the location of existing historical resources, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to substantial adverse changes in the significance of historical resources could be significant and unavoidable even with implementation of mitigation.

Impact 3.5-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.

Significant and Unavoidable Impacts – Mitigation Required.

Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of archaeological resources in the SCAG region, pursuant to *CEQA Guidelines* Section 15064.5, constituting a significant impact.

The OHP defines an archaeological “site” as consisting of three or more related resources discovered in one locality. In the event of archaeological discovery, the resources are collected, documented, and curated at an educational institution, such as a school or a museum. Transportation projects considered in the Plan have the potential to impact the nearly 100,000 archaeological resources in the SCAG region (**Table 3.5-1**). Many of the more than 100,000 archeological resources may also constitute tribal cultural resources (see **Section 3.18, Tribal Cultural Resources**) and be designated a Native American sacred site. In addition to the archeological sites that have been recognized and listed in federal and state lists, there are many unrecognized archaeological resources. Unrecognized archeological resources are those that have not previously been assessed or documented.

Construction of any new transportation facilities has the potential to impact archaeological resources by changing the context of the resource or directly through disturbing previously undisturbed resources. Changes to existing transportation facilities such as improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, bus-ways and capacity enhancement facilities, mixed flow lanes, other transportation facilities and right-of-way maintenance, would have less potential to impact archaeological resources because these project locations have previously been disturbed. However, it is possible for archaeological resources to be present within or immediately adjacent to disturbed sediments. Activities to increase roadway capacity such as the construction of additional lanes would potentially impact archaeological resources, if it would entail grading, trenching, excavation, and/or soil removal in an area not previously disturbed.

The Connect SoCal Plan also includes land use strategies that focus new growth in urbanized areas that are generally developed and therefore subject to varying levels of disturbance. In most cases the potential for discovering buried archeological resources in previously disturbed areas is low, as any resources that may have existed have likely been either removed or destroyed during previous excavations. Nonetheless, it is possible that some development pursuant to the land use strategies included in the Plan could be expected to occur on previously undisturbed sites. It is also possible that disturbance of archaeological resources could occur where such resource are buried and may not be visible at the ground surface, and in some instances are located below recent development. In such an instance, the potential to disturb previously undiscovered archeological resources would result in similar types of impacts to those described above for transportation facilities and would constitute a significant impact requiring the consideration of mitigation measures.

Construction and implementation of transportation projects contained in the Plan, as well as anticipated growth and land use development have the potential to expose and/or displace archeological resources, constituting a potentially significant impact requiring the consideration of mitigation measures.

*Mitigation Measures*SCAG Mitigation Measure

See **SMM CULT-1**.

Project Level Mitigation Measures

See **PMM CULT-1**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations and the locations of undiscovered archeological resources, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to substantial adverse changes in the significance of archaeological resources could be significant and unavoidable even with implementation of mitigation.

Impact 3.5-3 Disturb human remains, including those interred outside of dedicated cemeteries.

Significant and Unavoidable Impacts – Mitigation Required.

Construction and implementation of transportation projects included in the Connect SoCal Plan would not be expected to disturb human remains within areas being operated as existing formal cemeteries. However, the Plan includes transportation projects that have the potential to disturb human remains interred outside of formal cemeteries or those interred in Native American sacred sites, constituting a significant impact.

Humans have occupied the six-county SCAG region for at least 10,000 years. Although it is not always possible to predict where human remains may occur outside of formal burials, it is possible that excavation and construction activities, regardless of depth, may yield human remains that may not be interred in marked, formal burials. Earthmoving activities for transportation projects would generally be

within 150 feet on either side of any project and could result in a significant impact relative to the discovery of human remains.

Development that focuses new growth in urbanized areas while preserving natural lands may have a potential to encounter human remains as well. The transportation projects and anticipated growth under the Plan would result in 41,546 acres of greenfield land consumed. Although 60 percent of jobs and 73 percent of housing units would be in Growth Priority Areas under the Plan, 16 percent of the new housing would be in a standard suburban pattern that could disturb previously undisturbed resources. Under CEQA, human remains are protected under the definition of archaeological materials as being “any evidence of human activity.” Human remains are also protected under NAGPRA, which was enacted to provide protection to Native American graves, as well as culturally affiliated items, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony.

Transportation projects and anticipated growth under the Plan could take place in previously undisturbed or areas with only little previous disturbance, and excavation and soil removal of any kind, irrespective of depth, has the potential to encounter human remains, implementation of the Plan has the potential to disturb previously undiscovered human remains. While existing law strictly governs the procedures to address such remains, due to the volume of transportation projects and growth anticipated to occur under the Plan, it is possible that significant impacts could occur thus requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM CULT-1**.

Project Level Mitigation Measures

PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the

county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.

b. If any discovered remains are of Native American origin:

- Contact the County Coroner to contact the NAHC to designate a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains.
- If the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation within 48 hours after being notified by the commission, or the landowner or his representative rejects the recommendation of the MLD and the mediation by the NAHC fails to provide measures acceptable to the landowner, obtain a culturally affiliated Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations and the location of undiscovered human remains, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts could be significant and unavoidable even with implementation of mitigation.

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This section of the Program Environmental Impact Report (PEIR) describes the existing conditions related to energy in the SCAG region, identified the regulatory framework with respect to laws and regulations that address energy, and analyzes the significance of the potential energy impacts that could occur from development of the Connect SoCal Plan (“Connect SoCal” or “Plan”). In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.6.1 ENVIRONMENTAL SETTING

3.6.1.1 Definitions

Terms and criteria used in the assessment of energy are described below.

Natural Gas: Natural gas is a naturally occurring hydrocarbon mixture consisting primarily of methane and formed when layers of decomposing carbon material is exposed to intense heat under the Earth’s surface over millions of years.

Petroleum: Petroleum is a naturally occurring liquid mixture of hydrocarbons found in geological formations beneath earth’s surface and is refined into various types of fuels including gasoline, kerosene, and diesel oil.

Renewable energy: Renewable energy is a form of energy that is collected from renewable resources which are naturally replenishes on a human timescale such as sunlight, wind, rain, tides, waves, and geothermal heat. Renewable energy often provides energy for electricity generation, air and water heating/cooling, transportation, and off-grid energy services.

Acre-Feet: Unit of volume used to reference large-scale water resources, such as reservoirs, aqueducts, canals, and river flows. One acre-foot is equivalent to approximately 326,000 gallons or enough water to cover an acre of land by one foot.

British Thermal Units (Btu): The amount of heat required to raise the temperature of one pound of water by one-degree Fahrenheit.

Therms: Unit of heat equivalent to 100,000 Btu.

Watt: Unit of power equivalent to one joule per second, corresponding to the power in an electric circuit.

Watt-hour: Unit of energy equivalent to one watt of power expended for one hour of time.

3.6.1.2 Energy Supply

Electricity

Electricity produced within California in 2017 was from natural gas (43 percent), renewable resources (30 percent), large hydroelectric (18 percent), nuclear (9 percent), and coal (<1 percent). California uses energy generated in-state and imports electricity from the Southwest or Pacific Northwest of the United States. The State's electric generation mix, based on in-state generation and out-of-state purchases in 2017 was comprised of natural gas (34 percent), renewable resources (29 percent), large hydroelectric (15 percent), coal (4 percent), nuclear (9 percent), and additional unspecified sources of power (9 percent)¹. In 2017, the total electrical system power generated was 292,039 GWh, which is up about 0.5 percent from 2016's total system electric generation of 290,567 GWh.² This results in a per capita electricity use of approximately 7.38 MWh/person/year.³

Natural Gas

In 2018, the total natural gas usage across California was 12,638.16 million therms. The six counties making up the SCAG region used approximately 4,600 million therms in 2018, approximately 36% of the state's total usage for the year.⁴

Natural gas production across the country increased with technological advances in horizontal drilling and hydraulic fracking. However, in Southern California, natural gas production has steadily declined. In 2016, Governor Jerry Brown declared a state of emergency in Porter Ranch due to a natural gas leak that sickened people and forced the relocation of approximately 7,000 homes and several schools.^{5, 6} In 2018,

¹ California Energy Commission. 2018. *Total System Electric Generation*. Available online at: https://ww2.energy.ca.gov/almanac/electricity_data/system_power/2017_total_system_power.html, accessed September 3, 2019.

² Ibid.

³ U.S. Census Bureau. *QuickFacts: California*. Available online at: <https://www.census.gov/quickfacts/CA>, accessed September 26, 2019.

⁴ California Energy Commission. *Gas Consumption by County*. Available online at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>, accessed September 16, 2019.

⁵ Los Angeles Times. 2016. *Story So Far: Porter Ranch gas leak updates*. Available online at: <https://www.latimes.com/local/lanow/la-me-porter-ranch-gas-leak-live-htlmlstory.html>, accessed September 16, 2019.

⁶ U.S. Energy Information Administration. 2018. *Profile Analysis*. Available online at: <https://www.eia.gov/state/analysis.php?sid=CA>, accessed September 16, 2019.

it was announced that NRG Energy would close three natural gas plants in Southern California, including: Etiwanda in Rancho Cucamonga, Ormond Beach in Oxnard, and Ellwood in Goleta.⁷

Petroleum Based Fuel

In 2015, 15.1 billion gallons of gasoline (non-diesel) were sold statewide.⁸ In 2015, California also reported a total of 29,830,797 registered on-road vehicles, including light-duty cars (54 percent), light-duty trucks (43 percent), and medium and heavy-duty trucks (3.3 percent).⁹ In 2015, refineries in the state of California sold approximately 4,341 thousand gallons of gasoline a day, steadily decreasing since peaking at selling 8,452.8 thousand gallons per day in 2006.¹⁰ However, in 2017 and 2018, refinery sales increased to 4,369.6 thousand gallons a day and 4,455.9 thousand gallons per day, respectively.¹¹

Nuclear Power

After closure of the San Onofre Nuclear Generating Station (SONGS) in 2012, California has one operating nuclear power plant, Diablo Canyon. Diablo Canyon is located near San Luis Obispo and can generate approximately 2,160 megawatts (MW). The operating license expires in 2024 and Pacific Gas and Electric (PG&E), the owners of the plant, would be required to apply for a new permit in order to extend the license to 2044.¹²

Hydroelectric Power

California has 270 hydroelectric facilities with an installed capacity of 14,009 megawatts (MW). The amount of hydroelectricity varies each year due to snowmelt runoff and rainfall. From 1983 to 2018, the annual average hydroelectric generation was 271.8 GWh. Within the SCAG region, Imperial, Orange, Los

⁷ Clean Technica. 2018. *NRG Energy Announces 2018 Retirement of 3 Southern California Natural Gas Power Plants*. Available online at: <https://cleantechnica.com/2018/03/14/nrg-energy-announces-2018-retirement-of-3-southern-california-natural-gas-power-plants/>, accessed September 16, 2019.

⁸ California Energy Commission. 2019. *California Gasoline Data, Facts, and Statistics*. Available online at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/, accessed September 3, 2019.

⁹ Ibid.

¹⁰ U.S. Energy Information Administration. *California Total Gasoline Retail Sales by Refiners*. Available online at: <https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=p&s=a103650061&f=a>, accessed November 1, 2019.

¹¹ U.S. Energy Information Administration. 2019. *Refiner Motor Gasoline Sales Volumes*. Available online at: https://www.eia.gov/dnav/pet/pet_cons_refmg_c_SCA_EPM0_mgalpd_a.htm, accessed November 5, 2019.

¹² California Energy Commission. *Nuclear Energy in California*. 2019. Available online at: <https://ww2.energy.ca.gov/nuclear/california.html>, accessed September 26, 2019.

Angeles, Riverside, San Bernardino, Riverside, and Ventura have a combined hydroelectric capacity of 2,596.2 MW.¹³

Renewable Energy

Renewable energy includes biomass, geothermal plants, small hydroelectric (under 30 MW), solar, and wind. In 2018, California produced 63,028 GWh of electricity in renewable energy, 43% of which was solar.¹⁴ California is on the trajectory to meet the goal of 33% renewable energy by 2020 and is working towards achieving 50% renewable energy by 2030.¹⁵ The 2019 Building Energy Efficiency Standards go into effect on January 1, 2020 and will require most new residences to install solar panels which will decrease demand on electrical suppliers.¹⁶

3.6.1.3 Energy and Water

Water and energy are dependent on one another as water is essential in the production of electricity and electricity is required to pump, treat, and heat water.

In electricity generation, water is essential to hydropower (although hydro power does not result in consumption of water), thermoelectric power plants, as well as oil and gas extraction. In order to decrease thermoelectric power production's reliance on water many coastal power plants are changing from "once-through cooling" methods to "closed-cycle wet cooling" or "dry cooling" in order to reuse water. Moreover, the state's shift toward producing electricity from more renewables will decrease water use as few renewables require water.

California's water system requires electricity and accounts for approximately 20% of the state's total electrical consumption. While California's agricultural sector uses almost four times as much water as cities, cities use most of the water-related energy. Water heating makes up 90% of water-energy use and the pumping, conveying, and treating of water and wastewater make up the remaining 10%. As California moves to increase water efficiency, many measures will in turn reduce energy requirements. As discussed in **Section 3.19.3, Water Supply**, Southern California is increasing local water supply

¹³ California Energy Commission. *California Hydroelectric Statistics and Data*. Available online at: https://ww2.energy.ca.gov/almanac/renewables_data/hydro/index cms.php, accessed September 26, 2019.

¹⁴ California Energy Commission. 2018. *Total System Electric Generation*. Available online at: https://ww2.energy.ca.gov/almanac/electricity_data/system_power/2017_total_system_power.html, accessed September 3, 2019.

¹⁵ CARB.

¹⁶ California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed September 26, 2019.

through investments in desalination and water recycling. While both processes are energy intensive, they would replace a portion of the water being pumped from Northern California, creating an overall decrease in the energy required.¹⁷

3.6.2 REGULATORY FRAMEWORK

3.6.2.1 Federal

Energy Policy and Conservation Act of 1975

The Energy Policy and Conservation Act of 1975 (EPCA; Public Law 94–163, 89 Stat. 871, enacted December 22, 1975) was enacted for the purpose of serving the nation’s energy demands and promoting conservation methods when feasibly obtainable.

The EPCA was amended to:

- Grant specific authority to the President to fulfill obligations of the U.S. under the international energy program;
- Provide for the creation of a Strategic Petroleum Reserve capable of reducing the impact of severe energy supply interruptions;
- Conserve energy supplies through energy conservation programs, and the regulation of certain energy uses;
- Provide for improved energy efficiency of motor vehicles, major appliances, and certain other consumer products;
- Provide a means for verification of energy data to assure the reliability of energy data; and
- Conserve water by improving the water efficiency of certain plumbing products and appliances.¹⁸

National Energy Act of 1978

In response to the energy crisis in the 1970s, Congress passed the National Energy Act of 1978 (NEA) to establish energy efficiency programs, tax incentives, tax disincentives, energy conservation programs, alternative fuel programs, and regulatory and market-based initiatives.¹⁹ It includes five statutes:

¹⁷ PPIC Water Policy Center. 2016. *Energy and Water*. Available online at: https://www.ppic.org/content/pubs/report/R_1016AER.pdf, accessed September 18, 2019.

¹⁸ US Legal, Inc. *Energy Policy and Conservation*. Available online at: <http://energylaw.uslegal.com/energy-policy-and-conservation/>, accessed December 13, 2018.

- Public Utility Regulatory Policies Act (PURPA) (Public Law 95–617)
- Energy Tax Act (Public Law 95–618)
- National Energy Conservation Policy Act (NECPA) (Public Law 95–619)
- Power Plant and Industrial Fuel Use Act (Public Law 95–620)
- Natural Gas Policy Act (Public Law 95–621)

Of the five statutes, one, PURPA, is relevant to the consideration of the Plan and is therefore discussed in detail below.

Public Utility Regulatory Policies Act of 1978 (PURPA)

PURPA was passed in response to the unstable energy climate of the late 1970s. PURPA sought to promote conservation of electric energy. Additionally, PURPA created a new class of nonutility generators, small power producers, from which, along with qualified cogenerators, utilities are required to buy power.

PURPA was in part intended to augment electric utility generation with more efficiently produced electricity and to provide equitable rates to electric consumers. Utility companies are required to buy all electricity from “Qfs” (qualifying facilities) at avoided cost (avoided costs are the incremental savings associated with not having to produce additional units of electricity). PURPA expanded participation of nonutility generators in the electricity market, and demonstrated that electricity from nonutility generators could successfully be integrated with a utility’s own supply. PURPA requires utilities to buy whatever power is produced by Qfs (usually cogeneration or renewable energy). Utilities want these provisions repealed, critics argue that it will decrease competition and impede development of the renewable energy industry. The Fuel Use Act (FUA) of 1978 (repealed in 1987) also helped Qfs become established. Under FUA, utilities were not allowed to use natural gas to fuel new generating technologies but Qfs which were by definition not utilities, were able to take advantage of abundant natural gas and abundant new technologies (such as combined cycle). The technologies lowered the financial threshold for entrance into the electricity generation business as well as shortened the lead time for constructing new plants.²⁰

¹⁹ Government Publishing Office. 1978. *Public La 95-619- Nov. 9, 1978*. Available online at: <https://www.govinfo.gov/content/pkg/STATUTE-92/pdf/STATUTE-92-Pg3206.pdf>, accessed August 9, 2019.

²⁰ *Public Utility Regulatory Policies Act of 1978*. Available online at: <https://www.usbr.gov/power/legislation/purpa.pdf>, accessed August 28, 2019.

Energy Policy Act of 1992

The Energy Policy Act (Public Law 102-486; abbreviated as EPACT92) is a United States government act. It was passed by Congress and set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 established regulations requiring certain federal, state, and alternative fuel provider fleets to build an inventory of alternative fuel vehicles. It was amended several times in the Energy Conservation and Reauthorization Act of 1998 and in 2005 via the Energy Policy Act in 2005, which emphasized alternative fuel use and infrastructure development.²¹

Energy Policy Act of 2005

On August 8, 2005, President George W. Bush signed the National Energy Policy Act of 2005 (Public Law 109-58) into law. This comprehensive energy legislation contains several electricity-related provisions that aim to:

- Help ensure that consumers receive electricity over a dependable, modern infrastructure;
- Remove outdated obstacles to investment in electricity transmission lines;
- Make electric reliability standards mandatory instead of optional; and
- Give Federal officials the authority to site new power lines in DOE-designated national corridors in certain limited circumstances.

The Renewable Fuel Standard (RFS) program was created under the Energy Policy Act (EPAct) of 2005 and established the first renewable fuel volume mandate in the United States. The program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders. As required under EPAct, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.²²

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA; Public Law 110-140) was signed into law by President George W. Bush on December 19, 2007. The Act's goal is to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting

²¹ U.S. Department of Energy, Alternative Fuels Data Center. Key Federal Legislation. Available online at: http://www.afdc.energy.gov/laws/key_legislation, accessed December 13, 2018.

²² Government Publishing Office. *Energy Policy Act of 2005*. Available online at: <https://www.govinfo.gov/content/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf>, accessed August 28, 2019.

consumers, improving vehicle fuel economy, and promoting research on greenhouse gas capture and storage. Under the EISA, the RFS program (RFS2) was expanded in several key ways:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel, and set separate volume requirements for each one.
- EISA required EPA to apply lifecycle greenhouse gas performance threshold standards to ensure that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces.

RFS2 lays the foundation for achieving significant reductions of greenhouse gas emissions from the use of renewable fuels, for reducing imported petroleum, and encouraging the development and expansion of our nation's renewable fuels sector.

The EISA also includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.²³

Moving Ahead for Progress in the 21st Century

MAP-21 (Public Law 112-141) is the nation's surface transportation program and extended the provisions for fiscal year (FY) 12 with new provisions for FY 13. MAP-21 funded surface transportation programs at over \$105 billion for FY 2013 and FY 2014. It was intended to create a streamlined, performance-based, and multimodal program to address challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 addresses economic growth, accessibility, social equity, energy security and public health by setting transparent performance benchmarks.²⁴

²³ Government Publishing Office. *Energy Independence and Security Act of 2007*. Available online at: <https://www.govinfo.gov/content/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>, accessed August 28, 2019.

²⁴ Federal Highway Administration. 2018. *MAP-21 – Moving Ahead for Progress in the 21st Century*. Available online at: <https://www.fhwa.dot.gov/map21/>, accessed August 28, 2019.

After MAP-21 funding ended in FY 2014, President Obama issued the Fixing America's Surface Transportation Act (Fast Act) that largely maintains the MAP-21 program structure and funding shares and will continue to be implemented by the Federal Motor Carrier Safety Administration.^{25,26}

Heavy-Duty National Program

The Heavy-Duty National Program was adopted on August 9, 2011, to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014.²⁷

Final Rule: Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles

In June 2015, the U.S. Environmental Protection Agency (EPA) and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) jointly proposed a national program that established the next phase of greenhouse gas (GHG) emissions and fuel efficiency standards for medium- and heavy-duty vehicles. The Phase 2 program significantly reduces carbon emissions and improves the fuel efficiency of heavy-duty vehicles, helping to address the challenges of global climate change and energy security. In October 2016, the final rule was published, and anticipates saving the heavy duty vehicle industry billions of dollars' worth of fuel, reducing the cost of transporting goods, cutting fuel consumption, and reducing GHG emissions by 1 billion metric tons. Fuel consumption of tractor trailers alone is anticipated to decrease by 24 percent. The Phase 2 standards, which begin in the model year 2021 (model year 2018 for trailers and 2021 for NHTSA's trailer standards) and culminate in standards for model year 2027, are the product of a comprehensive assessment of existing and advanced technologies and extensive stakeholder outreach.²⁸

²⁵ U.S. Department of Transportation. 2019. *The Fixing America's Surface Transportation Act or "FAST Act."* Available online at: <https://www.transportation.gov/fastact/>, accessed September 16, 2019.

²⁶ Federal Highway Administration. 2018. *MAP-21 – Moving Ahead for Progress in the 21st Century.* Available online at: <https://www.fhwa.dot.gov/map21/>, accessed August 28, 2019.

²⁷ The White House President Barack Obama. 2011. *President Obama Announces First Ever Fuel Economy Standards for Commercial Vehicles.* Available online at: <https://obamawhitehouse.archives.gov/blog/2011/08/09/president-obama-announces-first-ever-fuel-economy-standards-commercial-vehicles>, accessed August 28, 2019.

²⁸ Environmental Protection Agency. 2016. *Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy- Duty Engines and Vehicles- Phase 2.* October. Available online at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency>, accessed December 13, 2018.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance

Executive Order (EO) 13514 was signed by President Obama on October 5, 2009. It expands on the energy reduction and environmental performance requirements for federal agencies identified in EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management. The goals of EO 13514 are as follows:

- Reduce petroleum consumption by 2% per year through FY2020 (applies to agencies with fleets of more than 20 vehicles) (Baseline FY2005).
- Reduce by 2% annually:
 - Potable water intensity by FY2020 (26% total reduction) (Baseline FY2007).
 - Industrial, landscaping, and agricultural water intensity by FY2020 (20% total reduction) (Baseline FY2010).
- Achieve 50% or higher diversion rate:
 - Non-hazardous solid waste by FY2015.
 - Construction and demolition materials and debris by FY2015.
- Ensure at least 15% of existing buildings and leases (>5,000 gross square feet) meet the Guiding Principles by FY2015, with continued progress towards 100%.
- Ensure 95% of all new contracts, including non-exempt contract modifications, require products and services that are energy-efficient, water-efficient, bio-based, environmentally preferable, non-ozone depleting, contain recycled-content, non-toxic or less-toxic alternatives.²⁹

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

EO 13693 was signed by President Obama on March 19, 2015 and revoked EO 13514. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emissions reductions. EO 13693 promotes building energy conservation, efficiency, and management by reducing agency building energy intensity measured in British thermal units per gross square foot by 2.5 percent annually through the end

²⁹ The White House President Barack Obama. 2009. *Executive Order 13514 Focused on Federal Leadership in Environmental, Energy, and Economic Performance*. Available online at: <https://obamawhitehouse.archives.gov/the-press-office/president-obama-signs-executive-order-focused-federal-leadership-environmental-ener>, accessed August 28, 2019.

of FY 2025, relative to the baseline of the agency's building energy use in FY 2015 and taking into account agency progress to date. EO 13693 also sets agency water use efficiency standards and management practices as well as mandates a fleet-wide per-mile GHG emissions reduction from agency fleet vehicles.³⁰

Executive Order 13834, Efficient Federal Operations

President Trump issued EO 13834 on May 17, 2018 which revokes EO 13693. EO 13834 confirms that it is US policy that Federal agencies meet energy and environmental performance statutory requirements in order to increase efficiency, optimize performance, eliminate unnecessary use of resources, and protect the environment and includes the following goals for the agencies:

- Achieve and maintain annual reductions in building energy use and implement energy efficiency measure that reduce costs;
- Meet statutory requirements relating to the consumption of renewable energy and electricity;
- Reduce potable and non-potable water consumption, and comply with stormwater management requirements;
- Utilize performance contracting to achieve energy, water, building modernization, and infrastructure goals;
- Ensure that new construction and major renovation conform to applicable building energy efficiency requirements and sustainable design principles; consider building efficiency when renewing or entering into leases; implement space utilization and optimization practices; and annually assess and report on building conformance to sustainability metrics;
- Implement waste prevention and recycling measures and comply with all Federal requirements with regard to solid, hazardous, and toxic waste management and disposal;
- Acquire, use, and dispose of products and services, including electronics, in accordance with statutory mandates for purchasing preference, Federal Acquisition Regulation requirements, and other applicable Federal procurement policies; and

³⁰ Government Publishing Office. 2015. *Planning for Federal Sustainability in the Next Decade*. Available online at: <https://www.govinfo.gov/content/pkg/CFR-2016-title3-vol1/pdf/CFR-2016-title3-vol1-eo13693.pdf>, accessed August 28, 2019.

- Track and report on energy management activities, performance improvements, cost reductions, greenhouse gas emissions, energy and water savings, and other appropriate performance measures.³¹

Clean Air Act Waiver for California's GHG Emission Standards for New Motor Vehicles

Due to the unique topography and rapid population increase within the Los Angeles basin, federal standards may not be effective enough to meet clean air standards, therefore the state was granted the ability to create stricter standards than set by the CAA. Utilizing the ability to set stricter emission standards, California was granted a waiver of the CAA in July 2009 so that the state may set its own vehicle emission standards for new motor vehicles in order to reduce GHG and ozone emissions.³² In 2018, the Trump administration announced that the government would ease the federal vehicle fuel standards. As a response, and as a result of the autonomy provided by this waiver, California along with four major antimanufacturing companies pledged to produce vehicle fleets averaging approximately 50 miles per gallon (mpg) by 2026.

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel economy for automobiles and light duty trucks. The rule revokes California's Clean Air Act waiver and preempts California's Advanced Clean Car Regulations and may potentially impact SCAG's Connect SoCal and transportation projects in the SCAG region.^{33, 34} On September 20, 2019, California, a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., filed a lawsuit in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule

³¹ Fed Center. 2019. *EO 13834*. Available online at: <https://www.fedcenter.gov/programs/eo13834/>, accessed September 16, 2019.

³² Federal Register. 2009. *Environmental Protection Agency: California State Motor Vehicle Pollution Control Standards; Notice of Decision Granting a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles; Notice*. Available online at: <https://www.govinfo.gov/content/pkg/FR-2009-07-08/pdf/E9-15943.pdf>, accessed September 18, 2019.

³³ U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100XI4W.pdf>, accessed October 29, 2019.

³⁴ Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report)*. Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

and arguing that EPA lacks the legal authority to withdraw the California waiver. As such, at the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.³⁵

Code of Federal Regulations Chapter 40, Parts 1039, 1065, and 1068

The Code of Federal Regulations established tiered emissions standards for construction equipment in order to phase in cleaner burning equipment that will reduce NO_x and particulate matter emissions from exhaust. After 2014, all construction equipment manufactured in the US is required to meet the highest tier of emission standards, Tier 4. The U.S. EPA oversees the implementation of these regulations.³⁶

3.6.2.2 State

Assembly Bill 2076, Reducing Dependence on Petroleum

The California Energy Commission (CEC) and California Air Resources Board (CARB) are directed by law, AB 2076 (2000), to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum consumption to 15 percent below 2003 demand by 2020. The options include the following:³⁷

Mid-Term Options (could be fully implemented in the 2010–2020 timeframe):

- Double fuel efficiency of current model light duty vehicles to 40 miles/gallon; and
- Use natural gas-derived Fischer-Tropsch fuel as a 33 percent blending agent in diesel.

Long-Term Options:

- Introduce fuel cell light duty vehicles in 2012, increasing to 10 percent of new vehicle sales by 2020, and 20 percent by 2030.

³⁵ If the SAFE Rule remains in place, the State and region would have to develop other means of achieving the NAAQS.

³⁶ U.S. EPA. 2018. *Regulations for Emissions from Heavy Equipment with Compression-Ignition (Diesel) Engines*. Available online at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression>, accessed September 26, 2019.

³⁷ State of California Air Resources Board. 2003. *Notice of Public Meeting to Consider Adoption of Recommendations to Reduce California's Dependence on Petroleum*. Available online at: <https://ww3.arb.ca.gov/regact/petdeprpt.htm>, accessed August 28, 2019.

Recommendations include:³⁸

- The Governor and Legislature should adopt the recommended statewide goal of reducing demand for on-road gasoline and diesel to 15 percent below the 2003 demand level by 2020 and maintaining that level for the foreseeable future;
- The Governor and Legislature should work with the California delegation and other states to establish national fuel economy standards that double the fuel efficiency of new cars, light trucks and SUVs; and
- The Governor and Legislature should establish a goal to increase the use of non-petroleum fuels to 20 percent of on-road fuel consumption by 2020 and 30 percent by 2030.

Since this bill was passed, California has set stricter standards for many of the goals laid out in AB 2076. For example, in January 2018, Governor Jerry Brown issued Executive Order B-48-18 that guarantees \$2.5 billion dollars to help Californian's buy electric vehicles and expand a network of charging stations in order to have 5 million electric cards on the road by 2030.³⁹ Moreover, as stated above, see **Section 3.6.2.1, Federal Regulations**, California worked with four major automotive manufacturers to announce that the state would have a fleet of vehicles averaging approximately 50 mpg by 2026.⁴⁰

Warren-Alquist Act

The Warren-Alquist Act was passed in 1974 in order to establish the California Energy Commission to respond to the energy crisis in the early 1970's and to address the state's unsustainable growing demand for energy resources. The Energy Commission's Chief Counsel's Office publishes updated versions of the Warren-Alquist Act every two years. The most recent version was approved in February 2019.⁴¹

³⁸ Ibid.

³⁹ California Fuel Cell Partnership. 2018. *Workshop on Governor's Executive Order B-48-18*. Available online at: <https://cafcp.org/content/workshop-governor-s-executive-order-b-48-18>, accessed September 18, 2019.

⁴⁰ The Washington Post. 2019. *Trump Administration to Revoke California's Power to Set Stricter Auto Emissions Standards*. Available online at: https://www.washingtonpost.com/climate-environment/trump-administration-to-revoke-californias-power-to-set-stricter-auto-emissions-standards/2019/09/17/79af2ee0-d97b-11e9-a688-303693fb4b0b_story.html?noredirect=on, accessed September 18, 2019.

⁴¹ California Energy Commission. *Warren-Alquist Act*. Available online at: <https://www.energy.ca.gov/rules-and-regulations/warren-alquist-act>, accessed September 26, 2019.

Senate Bill 1368, Greenhouse Gas Emissions Performance Standard for Major Power Plant Investments

SB 1368 was passed in September 2006 and requires the CEC to develop and adopt by regulation a GHG emissions performance standard for long-term procurement of electricity by local publicly owned utilities.⁴²

Assembly Bill 32: Global Warming Solutions Act

Governor Arnold Schwarzenegger signed AB 32 (Global Warming Solutions Act) into law on September 27, 2006, requiring that the CARB reduce GHG emissions by 25 percent by 2020. In the interim, CARB will begin to measure the GHG emissions of the industries it determines to be significant emitters. The bill also provides the governor the ability to invoke a safety valve and suspend the emissions caps for up to one year in the case of an emergency or significant economic harm. Pursuant to AB 32, CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste.

AB 32 requires CARB to develop a Scoping Plan which lays out California's strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, CARB approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. The most recent Climate Change Scoping Plan Update was published in January 2017 and highlights California's progress toward meeting the near-term 2020 GHG emissions reduction goals, highlights the latest climate change science, and provides direction on how to achieve long-term emission reduction goal described in EO S-3-05. As energy is one of the state's largest contributors to GHG emissions, efforts to reduce energy-related emissions are a key component of the Scoping Plan. The actions outlined in the Update also support California's efforts to build a state-of-the-art energy generation, supply and distribution system that is clean, affordable and reliable. A core element of the Update is the effort to reduce greenhouse gas emissions, specifically through low carbon energy, waste and water management, and sustainable agriculture, transportation and industry.⁴³

⁴² California Legislative Information. *Senate Bill No. 1368*.

⁴³ California Legislative Information. *Assembly Bill No. 32*.

Senate Bill 32 (SB 32) and Assembly Bill 197 (AB 197)

On September 8, 2016, California signed into law Senate Bill 32 (SB 32), which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels.⁴⁴ SB 32 was passed with companion legislation AB 197 Chapter 250, Statutes of 2016), which provides greater legislative oversight of CARB's GHG regulatory programs, requires CARB to account for the social costs of GHG emissions, and establishes a legislative preference for direct reductions of GHG emissions.⁴⁵

Assembly Bill 1007, Alternative Fuels Plan

The Alternative Fuels Plan adopted in 2007 by the State Energy Resources Conservation and Development Commission and the State Air Resources Board as required under state law, AB 1007, recommends that the governor set targets on a gasoline gallon equivalent basis for use of 10 different alternative motor fuels in the on-road and off-road sectors by nine percent by 2012, which has been achieved, and 11 percent by 2017 and 26 percent by 2022. These targets do not apply to air, rail or marine fuel uses. These goals will require a dramatic expansion in the use of such fuels as electricity, compressed natural gas, hydrogen, renewable diesel, bio-diesel and ethanol in motor vehicles.

Also built into the Alternative Fuels Plan, is a multi-part strategy to develop hybrid and electric vehicle technologies; build the infrastructure to deliver the alternative fuels; increase the blending of more biofuels into gasoline and diesel; improve the fuel efficiency of vehicles; and reduce vehicle miles traveled by California motorists with more effective land use planning.⁴⁶

Assembly Bill 758 Energy: Energy Audit

New state law promulgated under AB 758 mandates the California Energy Commission (CEC) to develop a comprehensive energy efficiency program for existing buildings. This bill will be implemented in three phases. In phase I, during the American Recovery and Reinvestment Act of 2009 (ARRA) implementation period (2010–2012), the CEC used ARRA funds to do state and local upgrade programs, workforce training, financing, and an outreach campaign. The CEC published the Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report and adopted the AB 758 Action Plan. Phase II will focus on implementing the roadmap necessary for foundational No Regrets Strategies to take hold and Voluntary Pathways to scale to achieve energy efficiency goals, partnerships, and market development.

⁴⁴ California Legislative Information. 2016. *Senate Bill 32*.

⁴⁵ California Legislative Information. 2016. *Assembly Bill 197*. 2019.

⁴⁶ California Legislative Information. *Assembly Bill No. 1007*.

Phase III will develop and institute Mandatory Approaches that will move energy efficiency practices into the mainstream. Transformation and maturation of the energy efficiency marketplace will require the formation of partnerships and cooperation among all stakeholders.⁴⁷

On December 14, 2016, the CEC published the updated version of the Existing Buildings Energy Efficiency Action Plan. The Plan provides a 10-year roadmap to activate market forces and transform California’s existing residential, commercial, and public building stock into high-performing and energy-efficient buildings. The results of this effort will be accelerated growth of energy efficiency markets, more effective targeting and delivery of building upgrade services, improved quality of occupant and investor decisions, and vastly improved performance of California’s buildings. Equally important, this effort will deliver substantial energy savings and greenhouse gas emissions reductions, contributing to the collective goal of reducing the impacts of climate change while improving the resilience of the state’s built environment and economy.⁴⁸

Assembly Bill 1493 (2009) / Advanced Clean Cars Program

The Advanced Clean Cars Program under AB 1493 (referred to as Pavley I), requires the California Air Resources Board (CARB) to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a “maximum feasible and cost effective reduction” by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG” will cover 2017 to 2025.⁴⁹

In January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas (CNG) vehicles, and hydrogen powered vehicles while reducing smog and saving consumers’ money in fuel costs. By 2025, when the rules will be fully implemented:

- New automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

47 California Energy Commission. 2012. *Comprehensive Energy Efficiency Program for Existing Buildings Scoping Report*. August. Available online at: <http://www.aiacc.org/wp-content/uploads/2013/05/Comp-Ener-Efficiency-Programs-CEC-400-2012-01511.pdf>, accessed August 28, 2019.

48 California Energy Commission. 2016. *2016 Existing Buildings Energy Efficiency Plan Update December 2016*.

49 California Air Resources Board. 2017. *Clean Car Standards – Pavley, Assembly Bill 1493*. January. Available online at: <http://www.arb.ca.gov/cc/ccms/ccms.htm>, accessed December 14, 2018.

- Environmentally superior cars will be available across the range of models, from compacts, to SUVs, pickups and minivans.
- Consumer savings on fuel costs will average \$6,000 over the life of the car. The savings more than offsets the average \$1,900 increase in vehicle price for the ultra-clean, high-efficiency technology.⁵⁰

Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation

In December 2008, CARB adopted a new regulation aimed at reducing GHG emissions by improving the fuel efficiency of heavy-duty tractors pulling 53-foot or longer trailers. Increases in fuel efficiency were achieved through improvements in the aerodynamics of the tractor and trailer as well as the use of low rolling resistance tires. The rule went into effect in 2010 and by the end of 2020 is anticipated to have reduced diesel fuel consumption by 500 million gallons in California and 3.3 billion gallons nationwide.⁵¹

Senate Bill 2 Renewable Portfolio Standard

California's Renewable Portfolios Standard (RPS), under Senate Bill (SB) 2 of 2011, sets a procurement goal for electricity retail sellers including investor-owned utilities, electric service providers, and community choice aggregators to 33 percent renewable energy sources by 2020. The RPS has three compliance periods: Period 1 (2011–2013), Period 2 (2014–2016), and Period 3 (2017–2020) as intermediate targets before full compliance in 2020. The CEC is responsible for designating electrical generation facilities as renewable energy sources and enforcing RPS.⁵²

Part 11 of the California Code of Regulations: Green Building Code

The California Green Building Standards Code, which is Part 11 of the California Code of Regulations, is commonly referred to as the CALGreen Code. The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2010 CALGreen Code is a code with mandatory requirements for state-regulated buildings and structures throughout California beginning on January 1, 2011. The code

50 California Air Resources Board. 2018. *Advanced Clean Car Program*. Available online at: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program>, accessed December 14, 2018.

51 CARB. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: <https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm>, accessed September 26, 2019.

52 California Public Utilities Commission. *California Renewables Portfolio Standard*. Available online at: <http://www.cpuc.ca.gov/PUC/energy/Renewables/>, accessed December 14, 2018.

requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.⁵³

California Building Energy Efficiency Standards: 2013 Title 24, Part 6 (California Energy Code)

The Code California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption.⁵⁴ These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards.⁵⁵ These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings (“envelope”)
- Insulation and cool roofs
- Lighting control devices

⁵³ CARB. 2018. *Green Building Standards Code*. Available online at: <https://ww3.arb.ca.gov/cc/greenbuildings/standards.htm>, accessed August 28, 2019.

⁵⁴ California Energy Commission. 2013 Building Energy Efficiency Standards. Available online at: <https://www.energy.ca.gov/title24/2013standards/>, accessed December 14, 2018.

⁵⁵ Ibid.

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings. Mandatory requirements for low-rise residential buildings cover indoor and outdoor lighting, fireplaces, space cooling and heating equipment (including ducts and fans), and insulation of the structure, foundation, and water piping. In addition to the mandatory requirements, the standards call for further energy efficiency that can be provided through a choice between performance and prescriptive compliance approaches. Separate sections apply to low-rise residential and to non-residential, high-rise residential, and hotel or motel buildings. In buildings designed for mixed use (e.g., commercial and residential), each section must meet the standards applicable to that type of occupancy.

The performance approach set forth under these standards provides for the calculation of an energy budget for each building and allows flexibility in building systems and features to meet the budget. The energy budget addresses space-conditioning (cooling and heating), lighting, and water heating. Compliance with the budget is determined by the use of a CEC-approved computer software energy model. The alternative prescriptive standards require demonstrating compliance with specific minimum efficiency for components of the building such as building envelope insulation R-values, fenestration (areas, U-factor and solar heat gain coefficients of windows and doors) and heating and cooling, water heating and lighting system design requirements. These requirements vary depending on the building's location in the state's 16 climate zones.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. As a result of new law under AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the standards went into effect in June 2001. The CEC then initiated an immediate follow-on proceeding to consider and adopt updated standards that could not be completed during the emergency proceeding. The 2013 Standards went into effect July 1, 2014. The 2016 Standards went into effect on January 1, 2017, and the 2019 Standards go into effect on January 1, 2020 and will continue to improve upon the current Standards for new construction of, and additions and alterations to, residential and nonresidential buildings.⁵⁶

The 2013 Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

⁵⁶ California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed August 28, 2019.

California Solar Initiative

On January 12, 2006, the California Public Utilities Commission (CPUC) approved the California Solar Initiative (CSI; R.04-03-017), which provides \$2.9 billion in incentives between 2007 and 2017. The CPUC oversaw a \$2.5 billion program for commercial and existing residential customers, funded through revenues and collected from gas and electric utility distribution rates. Furthermore, the CEC managed \$350 million targeted for new residential building construction, utilizing funds already allocated to the CEC to foster renewable projects between 2007 and 2011.

On March 2, 2006, the CPUC opened a proceeding to develop rules and procedures for the California Solar Initiative and to continue consideration of policies for the development of cost-effective, clean, and reliable distributed generation. On August 21, 2006, the governor signed SB 1, which directed the CPUC and the CEC to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation, and directed the CPUC and the CEC to create 3,000 megawatts of new, solar-produced electricity by 2017. In 2017 alone, customers installed 1,262 MW of solar capacity.⁵⁷

California's 2019 Building Energy Efficiency Standards

In December 2018, the California Building Standards Commission gave the final approval to a solar PV requirement mandating all new buildings under three stories tall be equipped with solar systems. The standards officially take effect on January 1, 2020 and include solar installation, battery storage, and improved energy savings through high-performance walls, attics, and windows.⁵⁸

California Cap and Trade Program

CARB adopted the California Cap and Trade Program final regulations on October 20, 2011. An amended regulation was adopted on September 12, 2012, with the first auction for GHG allowances on November 14, 2012. The cap and trade program is a market-based mechanism to reduce GHG emissions in a cost-effective and economically efficient manner. California is the first multi-sector cap and trade program in North America following the northeast Regional Greenhouse Gas Initiative (RGGI) and the European Union Emission Trading Scheme (EU-ETS). It sets a GHG emissions limit that will decrease by 2 percent each year until 2015 and then 3 percent from 2015 to 2020 to achieve the goals set forth in AB 32. The

⁵⁷ California Public Utilities Commission. 2018. *California Solar Initiative, Annual Program Assessment*. June.

⁵⁸ California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed August 28, 2019.

program initially applied to large electric power plants and large industrial plants, and, in 2015, expanded to include fuel distributors.⁵⁹

CARB's 2017 Update to Climate Change Scoping Plan (November 2017)

CARB's Climate Change Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 and SB 32 through subsequently enacted regulations, is discussed in detail in 3.6, *Greenhouse Gases*. On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update)*, which outlines the proposed framework of action for achieving California's new SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. The Scoping Plan references a 2013 study by the CEC that shows 12 percent of the total energy used in the state is related to water, with 10 percent associated with water-related end uses (e.g., heating, cooling, pressurizing, and industrial processes) and 2 percent associated with energy used by water and wastewater systems (e.g., pump, convey, treat). These figures indicate that the greatest potential for water-related energy savings resides with water end users, while water agencies have a role in improving end-user water conservation and in reducing the energy intensity of their portfolios. SB 350 and other regulations are expected to decarbonize the electricity sector over time, which will in turn reduce the consumption of fossil-fuel-based energy to produce water.⁶⁰

Executive Order S-06-06

Governor Arnold Schwarzenegger signed EO S-06-06 into law on April 25, 2006, which requires the state to meet the following targets regarding bioenergy production and use:⁶¹

- The state produce a minimum of 20 percent of its biofuel within California by 2010, 40 percent by 2020, and 75 percent by 2050; and
- The state meet a 20 percent target within the established state goals for renewable generation for 2010 and 2020.

⁵⁹ CARB. 2019. *Cap-and-Trade Regulatory Guidance*. Available online at: <https://ww3.arb.ca.gov/cc/test/cap-and-trade-faq.htm>, accessed August 28, 2019.

⁶⁰ CARB. 2017. *The 2017 Climate Change Scoping Plan Update*. January. Available online at: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf, accessed December 14, 2018.

⁶¹ Office of the Governor. 2006. *Executive Order S-06-06*. Available online at: https://ww2.energy.ca.gov/biomass/documents/EXEC_ORDER_S-06-06.PDF, accessed November 1, 2019.

Executive Order S-01-07

Governor Schwarzenegger signed EO S-01-07 into law on January 18, 2007, which establishes a statewide goal to reduce the carbon intensity of California’s transportation fuels by at least 10 percent by 2020.⁶²

Low Carbon Fuel Standard

Pursuant to EO S-01-07 and AB 32 (discussed in **Section 3.8, Greenhouse Gas**), the California Air Resources Board (CARB) developed the Low Carbon Fuel Standard in order to encourage the use of cleaner low-carbon fuels in California, encourage the production of those cleaner fuels, and therefore, reduce greenhouse gas (GHG) emissions. The program is based on the principle that each fuel has “life cycle” GHG emissions which includes the production, transportation, and consumption of a given fuel. Each fuel is assigned a carbon intensity score, which is then compared to a declining carbon intensity benchmark for each year. Low carbon fuels below the benchmark generate credits, while fuels above the CI benchmark generate deficits. Credits and deficits are denominated in metric tons of GHG emissions. Providers of transportation fuels must demonstrate that the mix of fuels they supply for use in California meets the LCFS carbon intensity standards, or benchmarks, for each annual compliance period. A deficit generator meets its compliance obligation by ensuring that the amount of credits it earns or otherwise acquires from another party is equal to, or greater than, the deficits it has incurred.⁶³

Executive Order B-18-12

Governor Edmund G. Brown, Jr., signed EO B-18-12 into law on April 25, 2012, which directs state agencies to reduce their grid-based energy purchases by at least 20 percent by 2018, as compared to a 2003 baseline. Pursuant to EO B-18-12, all new state buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025. Further, the following measures relevant to energy are required.⁶⁴

⁶² Office of the Governor. 2007. *Executive Order S-01-07*. Available online at: <https://ww3.arb.ca.gov/fuels/lcfs/eos0107.pdf>, accessed November 1, 2019.

⁶³ CARB. 2019. *Low Carbon Fuel Standard*. Available online at: <https://ww3.arb.ca.gov/fuels/lcfs/lcfs.htm>, accessed November 1, 2019.

⁶⁴ California Climate Change. *Executive Order B-18-12*. Available online at: https://www.climatechange.ca.gov/climate_action_team/documents/Executive_Order_B-18-12.pdf, accessed August 28, 2019.

- Any proposed new or major renovation of state buildings larger than 10,000 square feet shall use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible;
- New or major renovated state buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED “Silver” certification or higher, using the applicable version of LEED;
- New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation; and
- State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

Executive Order B-48-18

On January 26, 2018, Governor Edmund G. Brown, Jr. signed EO-48-18 to boost the use of zero-emission vehicles (ZEVs), electric vehicle charging infrastructure, and hydrogen refueling infrastructure in California. The order will implement the Governor’s target of 5 million ZEVs on the road by 2030 and 250,000 vehicle charging stations and 200 hydrogen refueling stations by 2025.⁶⁵

Executive Order B-30-15

EO B-30-15 reiterates a 2050 GHG emissions target of 80 percent below 1990 levels and sets a new interim target of 40 percent below 1990 levels by 2030. It further orders in relevant part:⁶⁶

- CARB to update the Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent;
- CARB to update every three years the state’s climate adaptation strategy;
- “State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives;”

⁶⁵ California Fuel Cell Partnership. 2018. *Workshop on Governor’s Executive Order B-48-18*. Available online at: <https://cafcp.org/content/workshop-governor’s-executive-order-b-48-18>, accessed September 18, 2019.

⁶⁶ Office of Governor Edmund G. Brown Jr., *Governor Brown Establishes Most Ambitious Greenhouse Gas Reduction Target in North America*. Available online at: <https://www.ca.gov/archive/gov39/2015/04/29/news18938/>, accessed August 28, 2019.

- “State agencies’ planning and investment shall be guided by the following principles:
 - Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
 - Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
 - Actions should protect the state’s most vulnerable populations; and
 - Natural infrastructure solutions should be prioritized; and
- OPR to establish a technical advisory group to help state agencies incorporate climate change impacts into planning and investment decisions.

Executive Order N-19-19

On September 20, 2019, Governor Newsom issued Executive Order N-19-19 which requires the redoubling of the state’s “efforts to reduce greenhouse gas emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy.” EO N-19-19 requires the Department of Finance to create a Climate Investment Framework with a strategy to align the state’s \$700 billion investment portfolio towards industries and sectors that contribute to the reduction of carbon emissions and increased resilience to the impacts of climate change. The State Transportation Agency shall leverage over \$5 billion in annual state transportation spending to reduce fuel consumption and GHG emissions associated with the transportation sector. The Department of General Services shall reduce the state government’s GHG footprint. Finally, the California Air Resources Board (CARB) shall develop new criteria for the clean vehicle incentive programs, propose new strategies to increase demand for zero emission vehicles, and consider strengthening existing or adopting new transportation-GHG reduction regulations in order to meet California’s goal of five million zero emissions vehicle sales by 2030.⁶⁷

Senate Bill 375 (SB 375)

SB 375, adopted in 2008, builds on AB 32, SB 375 (Chapter 728, Statutes of 2008) seeks to coordinate land use planning, housing planning, regional transportation planning, and GHG reductions. SB 375 addresses that reductions can be made through energy conservation and amended Government Code 65583 to

⁶⁷ Adaptation Clearinghouse. 2019. *State of California Executive Order N-19-19*. Available online at: <https://www.adaptationclearinghouse.org/resources/state-of-california-executive-order-n-19-19.html>, accessed October 29, 2019.

ensure the housing element of a sustainable communities strategy provide a proper analysis of energy conservation.⁶⁸ See **Section 3.8, Greenhouse Gas**, for further discussion of SB 375.

Senate Bill 350 (SB 350)

SB 350 was approved by Governor Brown on October 7, 2015. SB 350 does the following: (1) increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation.⁶⁹

Senate Bill 100 (SB 100)

Under SB 350, the state of California committed to reaching 50% renewable energy by December 31, 2030. SB 100, also known as “The 100 Percent Clean Energy Act of 2018,” revises the goals of SB 350 in order to achieve 50% renewable resources target by December 31, 2026 and achieve a 60% target by December 31, 2030 in order to plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy and zero-carbon resources by December 31, 2045. The transition to renewable energy resources is intended to provide the following benefits to California:⁷⁰

- Displacing fossil fuel consumption within the state.
- Adding new electrical generating facilities in the transmission network within the West Electricity Coordinating Council (WECC).
- Reducing air pollution, particularly criteria air pollutant emissions and toxic air contaminants, in the state.

⁶⁸ California Legislative Information. 2008. *Senate Bill 375*.

⁶⁹ California Legislative Information. *Senate Bill No. 350*.

⁷⁰ California Legislative Information. *Senate Bill No. 100*.

- Meeting the state’s climate change goals by reducing emissions of greenhouse gases associated with electrical generation.
- Promoting stable retail rates for electric service.
- Meeting the state’s need for a diversified and balanced energy generation portfolio.
- Assisting with meeting the state’s resource adequacy requirements.
- Contributing to the safe and reliable operation of the electrical grid, including providing predictable electrical supply, voltage support, lower line losses, and congestion relief.
- Implementing the state’s transmission and land use planning activities related to development of eligible renewable energy resources.

3.6.2.3 Regional

Many of the cities and counties within the region address energy in their general plans. Sections devoted to energy or utilities discuss the current state of energy procurement and utilization within specific jurisdictions and the local plans to improve current methods and move towards cleaner, renewable energy sources.

Clean Cities Program

The U.S. Department of Energy’s Clean Cities Program promotes voluntary, locally based government/industry partnerships for the purpose of expanding the use of alternatives to gasoline and diesel fuel by accelerating the deployment of alternative fuel vehicles (AFVs) and building a local AFV refueling infrastructure. The mission of the Clean Cities Program is to advance the nation’s economic, environmental and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. The Clean Cities Program carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.⁷¹

The Southern California/SCAG Clean Cities Coalition was first designated by the U.S. Department of Energy on March 1, 1996. SCAG directly administers the SCAG Clean Cities Program. This coalition supports government and industry partnerships to expand alternative fuel vehicles and infrastructure throughout the SCAG region.

⁷¹ U.S. Department of Energy. *Clean Cities Coalition Network*. Available online at: <https://cleancities.energy.gov/about/>, accessed August 28, 2019.

SCAG Future Communities Framework

The Future Communities Framework was developed to improve data collection, analysis, and application across Southern California. New technologies are critical to policy-making and planning decisions and the Framework presents SCAG with strategic recommendations for addressing big data and new technologies and the potential adoption of innovative policies. Advanced efficiency and innovation are especially critical when considering energy generation and utilization, as the state transitions to a clean energy future. The Framework outlines the potential for SCAG to increase outreach and data sharing with agencies within the region on climate adaptation, environmental, and energy data.

Los Angeles Countywide Sustainability Plan

The Los Angeles Countywide Sustainability Plan, also named OurCounty, is a regional sustainability plan for Los Angeles focused around the following goals:

- **Goal 1:** Resilient and healthy community environments where residents thrive in place;
- **Goal 2:** Buildings and infrastructure that support human health and resilience;
- **Goal 3:** Equitable and sustainable land use and development without displacement;
- **Goal 4:** A prosperous LA County that provides opportunities for all residents and businesses and supports the transition to a green economy;
- **Goal 5:** Thriving ecosystems, habitats, and biodiversity;
- **Goal 6:** Accessible parks, beaches, recreational waters, public lands, and public spaces that create opportunities for respite, recreation, ecological discovery, and cultural activities;
- **Goal 7:** A fossil fuel-free LA County;
- **Goal 8:** A convenient, safe, clean, and affordable transportation system that enhances mobility while reducing car dependency;
- **Goal 9:** Sustainable production and consumption of resources;
- **Goal 10:** A sustainable and just food system that enhances access to affordable, local, and healthy food;

- **Goal 11:** Inclusive, transparent, and accountable governance that facilitates participation in sustainability efforts, especially by disempowered communities;
- **Goal 12:** A commitment to realize OurCounty sustainable goals through creative, equitable, and coordinated funding and partnerships.⁷²

3.6.2.4 Local

Many cities within the SCAG region have established green plans or climate action plans (CAPs) that include goals and policies to reduce energy use and the associated emissions to meet AB 32 and SB 32 climate goals. Major cities within the SCAG region that have prepared plans that will reduce energy use include Los Angeles and Riverside, these plans are discussed below.

Los Angeles Green New Deal

In April 2019, Mayor Eric Garcetti announced Los Angeles' Green New Deal to set goals for the city's sustainable future. Los Angeles' Green New Deal commits to uphold the Paris Climate Agreement (see **Section 3.8, Greenhouse Gases**), deliver environment justice through an inclusive green economy, planning to ensure every City resident has the ability to join the green economy, and a determination to lead by example within City government. The goals and targets of the Green New Deal include:

- Building a zero-carbon electricity grid – reaching an accelerated goal of 80% renewable energy supply by 2036 as Los Angeles leads California toward 100% renewable by 2045.
- Creating a Jobs Cabinet to bring city, labor, educations, and business leaders together to support our effort to create 300,000 green jobs by 2035 and 400,000 by 2050.
- Mandating that all new municipally owned building and major renovations be all-electric, effective immediately, and that every building in Los Angeles – from skyscrapers to single-family homes – become emissions free by 2050.
- Achieving a zero-waste future by phasing out Styrofoam by 2021, ending the use of plastic straws and single-use takeout containers by 2028, and no longer sending any trash to landfills by 2050.
- Recycling 100% of our wastewater by 2035; sourcing 70% of our water locally – a significant increase from our existing pathway; and nearly tripling the maximum amount of stormwater captured.

⁷² County of Los Angeles. *Los Angeles Countywide Sustainability Plan*. Available online at: <https://ourcountyla.org/wp-content/uploads/2019/07/OurCounty-Final-Plan.pdf>, accessed September 12, 2019.

- Planting and maintaining at least 90,000 trees – which will provide 61 million square feet of shade – citywide by 2021 and increasing tree canopy in low-income, severely heat impacted areas by at least 50% by 2028.

The Green New Deal aims to reach a 50% reduction in GHG emissions by 2025 and reach net neutrality by 2050. The Green New Deal builds upon the City’s Sustainable City pLAN, in which the City met or exceeded 90% of the City’s long-term goals on time or early, resulting in a reduction of GHG emissions by 11% in a single year and creating more than 35,000 green jobs.⁷³

City of Riverside Green Action Plan

The City of Riverside’s Green Action Plan aims to reduce the City’s environmental impact by increasing the City’s renewable energy production and reduce the City’s GHG emissions, waste, and water consumption. Regarding energy, the Green Action Plan includes goals to install at least 20 megawatts (MW) of photovoltaic systems by 2020, reduce the City’s peak electrical load demand by 10%, and meet 33% of electricity demand from renewable sources by 2050.⁷⁴

3.6.3 ENVIRONMENTAL IMPACTS

3.6.3.1 Thresholds of Significance

For purposes of this PEIR, SCAG has determined that adoption of implementation of the Plan could result in significant adverse impacts regarding energy if the Plan would result in any of the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

3.6.3.2 Methodology

This section includes a discussion of the potential energy impacts of the proposed policies, programs, and projects included in the Plan, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, identifies mitigation measures for the impacts, and evaluates the

⁷³ City of Los Angeles. 2019. *Mayor Garcetti Launches L.A.’s Green New Deal*. Available online at: <https://www.lamayor.org/mayor-garcetti-launches-la%E2%80%99s-green-new-deal>, accessed September 12, 2019.

⁷⁴ City of Riverside. 2012. *Green Action Plan*. Available online at: https://www.riversideca.gov/utilities/greenriverside/pdf/Green_Action_Plan%202012.pdf, accessed September 12, 2019.

residual impacts. Energy resources, including non-renewable energy consumption, residential and commercial building energy consumption, water-related energy consumption, and transportation related fuel consumption, were evaluated in accordance with Appendix G of the 2019 California Environmental Quality Act (CEQA) Guidelines. In addition, Appendix F, which generally provides direction on how an EIR can address energy and outlines how projects can demonstrate energy conservation was used to guide the analysis.

Estimated energy consumption in the Plan horizon year of 2045 is expected to represent the most conservative (i.e., highest energy consumption of any year in the Plan) because population and employment are projected to be higher in 2045 than in any earlier year, and future conservation efforts may not be fully quantified at this time. Building energy and water consumption were estimated for future horizon year 2045 using SCAGs Urban Footprint Scenario Planning Model (SPM).⁷⁵ The SPM is a web-based scenario development, modeling, and data organization tool developed to facilitate informed and collaborative regional planning. Built on open source software platforms, the SPM includes a suite of tools and analytical engines that help to illustrate planning and policy growth scenarios and to estimate and compare, in relatives, potential benefits and effects among scenarios in transportation, environment, fiscal, public health, and community. Moreover, the SPM provides a common data framework within which local planning efforts can be easily integrated and synced with regional plans.

SPM calculates greenhouse gas (GHG) emissions associated with building energy use as a function of energy use and GHG emission rates for electricity generation and natural gas combustion. To correspond with residential and commercial building energy emissions as determined by CARB GHG Inventory, SPM uses a baseline CO_{2e} emission rate derived by dividing California's total emissions attributed to electric power generation in 2016 by total electricity consumption in that year. Future electricity emissions rates are calculated based on projected resource mix that meets the California Renewables Portfolio Standard (RPS) goal of 50% renewable sources by 2030 and remains unchanged thereafter. Emissions from on-site natural gas combustion are assumed to remain constant at the CPUC-approved baseline rate, which already represents a high level of efficiency.

Water-related energy use and greenhouse gas (GHG) emissions refer to those resulting from two main water-related energy use categories: a) system use, including the transport and treatment of residential water consumed; and b) end uses, including all uses of water that occur within homes (e.g., water heating). SPM calculates energy use and emissions for water system uses only. The per-gallon energy use factors associated with the system uses were estimated by the CEC in a 2005 report, *California's Water-*

⁷⁵ Southern California Association of Governments. Accessed 30 October 2015. *Scenario Planning Model*. Available at: <http://sp.scag.ca.gov/Pages/About.aspx>

Energy Relationship, and a 2006 refinement of the report's original factors. The GHG emission rates per kilowatt-hour of water-related electricity use are assumed to be the same as building energy use.

Energy resources within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of six counties and 191 cities within the SCAG region; data available from the U.S. Energy Information Administration (EIA) for California;⁷⁶ and review of related literature germane to the SCAG region.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.6.3.3 Impacts and Mitigation Measures

Impact ENR-1 Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Less than Significant Impact.

Implementation of transportation projects and the land use strategies reflected in the Plan, is not expected to result in wasteful, inefficient, or unnecessary energy consumption. The Plan includes many transportation projects (e.g., bikeway and pedestrian projects, rail projects, transit projects, Transportation System Management [TSM] and Transportation Demand Management [TDM] projects, etc.) that would improve the availability of alternative transportation modes and help reduce VMT, congestion and resultant air pollutants in the SCAG region as compared to a future without Plan implementation (see **Table 3.17-11, Major Transit Capital Projects**; **Table 3.17-12, Daily Transit Boarding**; and **Table 3.17-14, Total VMT 2019 and 2045 by County**). As shown in **Table 2.0-3, Connect SoCal Expenditure (in Billions)**, SCAG has programmed more than \$17 billion in active transportation

⁷⁶ U.S. Energy Information Administration. 2018. *State Profile and Energy Estimates: California*. Available online at: <http://www.eia.gov/state/?sid=ca>, accessed December 18, 2018.

projects. Beyond reductions in VMT, many of the Plan's transportation projects promote the use and generation of renewable energy reducing the need for fossil fuel energy. For example, the Plan includes the purchase of 170 solar-powered bus information signs in Los Angeles as well upgrades to a Los Angeles Metro maintenance facility with up-to-date solar panels and a battery storage system.⁷⁷ The Plan's transportation projects are integrated with the land use strategies that promote HQTAs, livable corridors, and neighborhood mobility areas. The Plan would result in a reduction of per capita VMT, combined with federal and state policies that require reductions in fossil fuel consumption (see S-06-06 and EO B-48-18), and increased renewable energy use and availability (see EO B-18-12), and increased building efficiency (EO 13834). Therefore, overall energy use would not be wasteful or inefficient.

Construction

Transportation Projects

Construction of transportation projects would result in short-term consumption of energy resulting from the use of construction equipment and processes. In addition, roadway and transit construction materials, such as asphalt, concrete, surface treatments, steel, rail ballast, as well as building materials, require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials.

Construction of individual transportation projects within the SCAG region as a result of the Plan would use energy resources, such as petroleum fuel to operate off-road construction equipment. The EPA set Tier 4 construction engine standards in order to reduce NO_x and particulate matter emissions, however, Tier 4 standards also provide greater energy efficiency and productivity.⁷⁸ Construction also requires heavy duty truck trips for vendor trips or to remove grading and demolition debris from individual sites. In order to address greenhouse gas emissions from these heavy-duty trucks, the California Air Resources Board (CARB) set regulations in 2008 to increase the fuel efficiency of heavy-duty trucks through improving the trailer aerodynamics and using low rolling resistance tires (see **Section 3.6.2.2**). This policy is expected to have reduced diesel fuel consumption in heavy duty trucks by 500 million gallons in California from 2010 to 2020.⁷⁹ Additionally, in an effort to reduce diesel particulate matter (DPM), NO_x, and other criteria air pollutant emissions from vehicles, CARB issued the Truck and Bus Regulation in 2008. The regulation requires nearly all trucks and buses to have 2010 or newer model year engines by

⁷⁷ SCAG. 2019. *Project List*.

⁷⁸ Diesel Technology Forum. *About Clean Diesel Construction*. Available online at: <https://www.dieselforum.org/about-clean-diesel/construction>, accessed September 18, 2019.

⁷⁹ California Air Resources Board. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: <https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm>, accessed September 18, 2019.

January 1, 2023.⁸⁰

Land Use Development

Similar to transportation projects, construction of development projects would result in short-term consumption of energy resulting from the use of construction equipment. The California Green Building Standards Code (CALGreen Code)⁸¹ includes specific requirements related to recycling, construction materials and energy efficiency standards, which would apply to construction of land use projects, which would help to minimize waste and energy consumption.

Similar to transportation projects, construction of development projects would use energy resources, such as petroleum fuel to operate off-road construction equipment. As noted above, EPA Tier 4 construction engine standards provide greater energy efficiency and productivity.⁸²

Growth under the Plan

The SCAG region is anticipated to grow by approximately 3.2 million people over the lifetime of the Plan. Due to increases in per capita petroleum fuel and energy consumption through rising utility prices and efficiency improvements, residential and building energy consumption is expected to decrease. A discussion of residential energy use, building energy use, petroleum usage, and energy and water-related energy consumption with the Plan is provided below:

Daily operation of the regional transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles (see discussion below) as well as other forms of transportation (buses, planes, ships, and trains). The Plan's transportation projects are not only aimed at reducing VMT (see **Table 13.17-14, Total VMT 2019 and 2045**), the Plan also invests in the expansion of critical highways and road improvements which would increase vehicle capacity, and overall efficiency of the transportation network. Increases in motor vehicle trips are primarily a combined function of population and employment growth. Population growth and growth in VMT would occur within the region regardless of whether the Plan is implemented, but under the Plan more efficient use of the transportation system is

⁸⁰ CARB. 2019. *Truck and Bus Regulation Compliance Requirement Overview*. Available online at: https://ww3.arb.ca.gov/msprog/onrdiesel/documents/fsregsum.pdf?_ga=2.250600582.1896330852.1574097006-1229197864.1566229390, accessed November 18, 2019.

⁸¹ Building Standards Commission. *CALGreen*. Available online at: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>, available online at: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>, accessed November 1, 2019.

⁸² Diesel Technology Forum. *About Clean Diesel Construction*. Available online at: <https://www.dieselforum.org/about-clean-diesel/construction>, accessed September 18, 2019.

anticipated resulting in a lower VMT per capita. The Plan would result in greater availability of public transit and other alternative modes of transportation, such as complete streets and active transportation, that would facilitate a more energy efficient region. The reduction in overall congestion resulting from these service level improvements would reduce fuel consumption and promote fuel efficiency (see analysis of fuel consumption below with respect to anticipated development). New transportation facilities that require energy for operation, such as signal lighting, roadway or parking lot lighting and electronic equipment will increase energy demand. New landscaping irrigation of transportation projects also incrementally increases energy demand through water pumping and treatment. In addition, statewide policies targeted at improving the fuel efficiencies of on-road vehicle petroleum fuel consumption by light, medium, and heavy-duty vehicles are anticipated to result in decreased petroleum use by 2045 (see **Table 3.6-4, SCAG Region Estimated Transportation Fuel Consumption**).

Land Use Development

Residential Energy Use

Growth under the Plan would increase residential energy consumption due to the increase in total households by 2045. It is expected that the SCAG region would add approximately 1.4 million households from 2019 to 2045. The residential energy consumption per household is expected to decline from 56 million British thermal unit (Btu) in 2019 to 44 million Btu in 2045 with implementation of the Plan (**Table 3.6-1, Residential Energy Use and Cost per Household**). Additionally, the Plan includes land use strategies intended to increase sustainable and energy efficient residential development (compact development is more energy efficient). As a result, it is projected that the Plan would result in a 21 percent reduction in per household energy consumption and an estimated 23 percent reduction in residential electricity consumption per household (**Table 3.6-1**). Due to the reductions in per household energy and electricity consumption, the overall energy consumption is expected to decrease by approximately 3 percent.

**Table 3.6-1
Residential Energy Use and Cost per Household**

	2019	No Project 2045	Plan 2045	% Difference from 2019 to Plan
Residential energy use per household (Btu in millions)	56	45	44	-21%
Residential electricity use per household (kWh)	6,877	5,400	5,270	-23%
Number of households	6,212,000	7,722,000	7,722,000	24%
Residential energy use (Btu in trillions)	350	347	338	-3.4%
Residential energy cost (in billions)	\$9.30	\$15.60	\$15.20	63%

Note: Btu = British thermal unit; kWh = kilowatt-hour

Source: SCAG Modeling, 2019.

Residential energy costs are expected to increase from \$9.3 billion in 2019 to \$15.2 billion in 2045 across the SCAG region. This represents an approximately \$479 increase in household energy costs from 2019 to 2045 (**Table 3.6-2, Residential Energy and Water Cost per Household**). Increased energy costs, despite lower energy use, can be explained by increasing electricity and natural gas per unit costs. **Table 3.6-2** shows there would be an estimated 25 percent increase in household cost compared to the 2019 base year. The total utility cost per household, including both energy and water cost is expected to increase by \$498 from 2019 to 2045. Water costs are anticipated to decrease, but do not proportionally decrease as much as energy costs increase.

**Table 3.6-2
Residential Energy and Water Cost per Household**

	(2019)	2045 No Project	2045 Plan	% Difference from 2019 to Plan
Residential energy cost per household	\$1,494	\$2,020	\$1,973	32%
Residential water cost per household	\$403	\$409	\$392	-3%
Total utilities (energy + water) cost per household	\$1,897	\$2,429	\$2,365	25%

Source:

SCAG scenario planning modeling, 2019.

Impact Sciences, 2019

Although the total population is expected to increase by 16 percent over the lifetime of the Plan, the overall energy use is expected to decrease with large increases in per household energy and electricity

efficiency. These increases in efficiency are due in part to California building regulations. For example, by 2020, California will require every new home to be equipped with solar power,^{83, 84} therefore all new single family homes and multifamily homes up to three stories in height, constructed over the duration of the Plan will have solar panels. Additionally, the Plan includes strategies to promote transit oriented development, which tends to be more energy efficient as it moves more people per mile. Further, many transit agencies use natural gas, electricity, or other clean energy for their fleet. Finally, increases in energy cost will drive down demand. As such, residential energy use would not be wasteful.

Building Energy Consumption

By 2045, the SCAG region is expected to add approximately 3.2 million people. Due to population growth and the associated development, building energy consumption is projected to increase. The Plan encourages compact land use patterns with a focus on urban infill growth and walkable, mixed-use communities. Mixed-use, walkable, and urban infill development combined with transportation investments that increase active transportation opportunities and improved facilities would be expected to accommodate more growth in more energy-efficient housing types. Examples of energy efficient housing types include townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. Overall, development under the Plan would result in an increase in total building energy consumption, however, buildings will be more energy efficient in 2045 (**Table 3.6-3, Building Energy Consumption—Residential and Commercial**). Total residential and commercial building energy consumption (electricity and natural gas) is expected to decrease by 2 percent under the Plan (**Table 3.6-3**). The residential sector would use less energy in the future (3 percent decrease); the commercial sector would use the same amount of energy in the future. Since total building energy would decrease under the Plan, the Plan would not result in the wasteful or inefficient use of energy.

⁸³ The New York Times. *California Will Require Solar Power for New Homes*. Available online at: <https://www.nytimes.com/2018/05/09/business/energy-environment/california-solar-power.html>, accessed September 12, 2019.

⁸⁴ California Energy Commission. 2019. *2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. See Section 110.10. Available online at: <https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf>, accessed November 1, 2011.

**Table 3.6-3
Building Energy Consumption – Residential and Commercial**

	Base Year (2019)	No Plan (2045)	Plan (2045)	% Difference from Base Year
Residential electricity consumed (GWh)	42,722	41,701	40,692	-5%
Residential natural gas consumed (therms in billions)	2	2	2	0%
Residential energy consumed (Btu in trillions)	350	347	338	-3%
Commercial electricity consumed (GWh)	49,881	53,161	50,309	1%
Commercial natural gas consumed (therms in billions)	0.5	0.5	0.5	0%
Commercial energy consumed (Btu in trillions)	221	231	221	0%
Total energy consumed (Btu in trillions)	571	578	559	-2%

Note: GWh = gigawatt-hour; Btu = British thermal unit.

Source: SCAG Scenario Planning Modeling, 2019.

As shown above, total building energy consumed in the SCAG region over the lifetime of the Plan is anticipated to decrease by 2%. According to SCAG, the population in 2019 is approximately 19.3 million people, result in a per capita building energy use 29.5 million Btu/person. The population is estimated to reach 22.5 million people by 2045, resulting in a 2045 per capita building energy use of 24.8 million Btu/person. Therefore, per capita building energy use will decrease by 4.7 million Btu/person. As a result, building energy efficiency will increase.

Petroleum Fuel

Petroleum fuel consumption is associated with energy consumed by cars and other light duty vehicles as a result of people traveling between the various land uses. Fuel consumption is expected to decrease by 19.4 percent from 8.3 billion gallons in 2019 to the projected 6.7 billion gallons in 2045 (**Table 3.6-4, SCAG Region Estimated Transportation Fuel Consumption**).

**Table 3.6-4
SCAG Region Estimated Transportation Fuel Consumption**

	Fuel Consumed		Percentage Reduction Compared to 2019
	Billion Gallons per Year	Thousand Gallons per Day	
2019	8.3	22,865	—
2045 No Project	6.9	18,869	-17.5%
2045 Plan	6.7	18,437	-19.4%

Source: SCAG Transportation Modeling, 2019.

As the SCAG region gains employment and population, total VMT will increase (see **Table 3.17-14, Total VMT 2019 and 2045 by County**). Proposed transportation investments and the land use strategies that encourage carpooling, increase transit use and active transportation opportunities, and promote more walkable and mixed-use communities would help reduce VMT and would reduce per capita VMT but reductions would not be enough to offset total VMT increases. Total VMT would increase in 2045 compared to existing (see **Table 3.17-14**). Despite an increase in total VMT, total fuel consumption would be reduced through improved fuel economy and increased efficiency in the overall network (measured as total hours of delay) (see **Table 3.17-17, Total Daily Vehicle Hours of Delay**), and more alternative fuel and zero emissions vehicle types on the road. In accordance with EO B-48-18, five million ZEV's are expected to be on California roadways in 2030. Additionally, CARB's fuel efficiency regulations have reduced diesel fuel consumption in heavy-duty trucks by 500 million gallons in California from 2010 to 2020 through improvements in tractor and trailer aerodynamics, which would reduce fuel consumption during both the construction and operation of a project.⁸⁵ Therefore, the use of petroleum would not be wasteful or inefficient.

Energy and Water-Related Energy Use

Increasing water efficiencies are anticipated to result in a decrease in residential water use in the future. Overall residential and commercial water use in the region is anticipated to decrease by 5 percent. As a result of increasing energy efficiencies and decreases in total water use, water-related energy use would not be wasteful or inefficient and therefore the impact would be less than significant.

As shown in **Table 3.6-5, Water Use—Residential and Commercial**, the majority of water use reductions are expected from the residential sector, which is anticipated to reduce water use over the lifetime of the Plan by approximately 14% (combined indoor and outdoor). Reductions in the residential sector are

⁸⁵ California Air Resources Board. 2013. *Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation*. Available online at: <https://ww3.arb.ca.gov/cc/hdghg/hdghg.htm>, accessed September 18, 2019.

anticipated to result from policies implemented as a result of the 2012-2015 drought. Most of the anticipated residential water use reductions would come from the reduction in urban landscaping water, which makes up roughly half of all urban water use.⁸⁶ Larger reductions are seen in the outdoor water use compared with the indoor water use for both residential and commercial. This is aligned with potential higher density, multi-family and attached single-family development (which tends to consume less water for outdoor, landscaping uses, compared to lower density development with larger lot sizes) expected from implementation of the Plan's land use strategies that encourage more compact development in existing urbanized areas and opportunity areas.

**Table 3.6-5
Water Use – Residential and Commercial**

	2019	2045 No Project	2045 Plan	% Difference from 2019
Indoor residential water use (AF)	1,200,854	1,152,888	1,121,335	-7%
Outdoor residential water use (AF)	973,387	829,561	791,901	-19%
Residential water use (AF)	2,174,241	1,982,449	1,913,236	-12%
Indoor commercial water use (AF)	708,821	856,138	868,901	23%
Outdoor commercial water use (AF)	390,535	351,650	340,534	-13%
Commercial water use (AF)	1,099,356	1,207,788	1,209,434	10%
Total water use (AF)	3,273,597	3,190,237	3,122,670	-5%

Note: AF = acre-feet.

Source: SCAG scenario planning modeling, 2019.

As shown above, total water use in the SCAG region by 2045 is anticipated to decrease by 5%. Indoor residential, outdoor residential, and outdoor commercial are anticipated to decrease in water use; however, indoor commercial water use is anticipated to increase by 23% over the lifetime of the Plan. The commercial sector includes offices, hospitals, hotels, restaurants, educational facilities, and industrial land uses. The large increase in water use may be in part to the additional commercial uses that will be required for a population increase of 3.2 million people.

⁸⁶ PPIC Water Policy Center. 2019. *Just the Facts: Water Use in California*. Available online at: https://cwc.ca.gov/-/media/CWC-Website/Files/Documents/2019/06_June/June2019_Item_12_Attach_2_PPICFactSheets.pdf?la=en&hash=E233EA870DFB826F235B258177849300179E1B64, accessed September 12, 2019.

As noted above, water use is closely tied to the electricity required to transport, distribute, and treat water.⁸⁷ Water-related electricity use is expected to decrease from 13,040 gigawatt-hours (GWh) to 12,544 GWh in 2045 with the Plan, which represents a 4 percent decrease in electricity (**Table 3.6-6, Water-Related Energy Use**).

**Table 3.6-6
Water-Related Energy Use**

	2019	2045 No Project	2045 Plan	% Difference from Baseline
Water-related electricity use (GWh)	13,040	12,672	12,544	-4%

Note: GWh = gigawatt-hour.

Water related energy use does not include heating of water

Source: SCAG scenario planning modeling, 2019.

As demonstrated in the table above, the total water-related electricity use is expected to decrease by 4% over the lifetime of the Plan. Based on data provided by SCAG, the per capita water-electricity use is 674 kWh/person for the existing condition. In a 2045 per capita water-related electricity use is expected to be 557 kWh/person. Therefore, the per capita water-related electricity use will decrease by 117 kWh/person. As a result, water-related electricity use efficiency will increase.

As demonstrated above, fuel consumption, total building energy use, and water related energy use are expected to decrease over the lifetime of the Plan. Water-related electricity use efficiency is also anticipated to decrease over the lifetime of the Plan. However, as stated above, the per capita building energy use efficiency is anticipated to increase by 4.7 million Btu/person.

In summary, construction energy use is anticipated to be more efficient (and less wasteful) in the future as Tier 4 construction equipment combined with CARB regulations for reducing fuel use in heavy-duty diesel trucks used for hauling construction materials are implemented. Additionally, the transportation projects combined with transportation and land use strategies will encourage compact (more efficient) land use and more efficient, less energy intensive transportation (transit, bike, walk) which will result in a lower VMT per capita. Therefore, the Plan would not result in wasteful or inefficient use of energy and this impact is less than significant.

⁸⁷ The SCAG region has several desalination projects proposed or under development within the SCAG region, and desal plants are highly energy intensive. However, such projects diversify water supply portfolios and provide for greater reliability. Therefore, if water production relies on a desalination plants in the future, the water-related energy use could increase.

Impact ENR-2 Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Less than Significant Impact.

As discussed above, the Plan would result in a decrease in per capita energy use and would not result in energy used in an unnecessary or wasteful manner. The Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy if it is consistent with existing relevant energy conservation policies. Accordingly, inconsistencies between the Plan and adopted plans and policies related to energy conservation have not been identified. The discussion below further examines consistency with adopted plans and policies related to energy conservation.

The 1974 Warren-Alquist Act established the California Energy Resource Conservation and Development Commission, now known as the California Energy Commission (CEC), and established a State policy to reduce wasteful, uneconomical and unnecessary uses of energy. Based on the data above, and explained in the conclusion below, the Plan would not result in wasteful, inefficient, or unnecessary use of energy. Therefore, the Plan is consistent with the Warren-Alquist Act policies.

Senate Bill (SB) 1078 as accelerated by SB 350, establishes a renewable portfolio standard for electricity supply, and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 33 percent of their supply from renewable sources by 2020. In addition, the 2017 Integrated Energy Policy Report (IEPR) includes a set of strategies to address California's future energy needs. Key topics covered in the report include electricity resource and supply plans; electricity and natural gas demand forecasts; natural gas outlooks; transportation energy demand forecasts; energy efficiency savings; integrated resource planning; a barriers study; climate adaptation and resilience; renewable gas; distributed energy resources; strategic transmission investment plans; and existing power plan reliability issues. The proposed Plan would not conflict with these policies. Refer to **Section 3.8, Greenhouse Gas Emissions**, for a discussion of greenhouse gas emissions reductions related to the Plan.

In addition, many Plan projects promote energy efficiency as they support implementation of the 2010 Clean Air Plan transportation control measures including transportation demand management, transportation system management, commuter and public transit; rail, bike and pedestrian programs, among others.

Development under the Plan would be required to be consistent with applicable regulations and policies including the LA County Sustainability Plan, the LA Green New Deal, as well as the Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura County General Plans. These plans encourage the use of renewable energy, energy conservation and energy efficiency techniques in all new building

design, orientation and construction and support of alternative transportation and fuels. As described above, the Plan includes TDM intended to improve the efficiency and effectiveness of the transportation system, reducing fuel consumption, transit and other alternative modes of transportation, such as new pedestrian and bicycle facilities and promotes mixed use and infill development. In summary, implementation of the Plan would not result in wasteful or inefficient energy consumption within the region and is generally consistent with applicable policies regarding energy conservation and renewable energy. Therefore, impacts would be less than significant.

3.6.4 SOURCES

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3.7 GEOLOGY AND SOILS

This section of the Program Environmental Impact Report (PEIR) describes the geological characteristics of the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern geology and soils, and analyzes the significance of the potential impacts that could result from development of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Information regarding paleontological resources was largely obtained from the Paleontological Resources Report prepared by SWCA and included as Appendix 3.7 of this PEIR.

3.7.1 ENVIRONMENTAL SETTING

3.7.1.1 Definitions

Alluvium: An unconsolidated accumulation of stream deposited sediments, including sands, silts, clays or gravels.

Extrusive Igneous Rocks: Rocks that crystallize from molten magma on earth’s surface.

Fault: A fracture or fracture zone in rock along which movement has occurred.

Formation: A laterally continuous rock unit with a distinctive set of characteristics that make it possible to recognize and map from one outcrop or well to another. The basic rock unit of stratigraphy.

Holocene: An interval of time relating to, or denoting the present epoch, which is the second epoch in the Quaternary period, from approximately 11,000 years ago to the present time.

Liquefaction: The process by which water-saturated sandy soil materials lose strength and become susceptible to failure during strong ground shaking in an earthquake. The shaking causes the pore-water pressure in the soil to increase, thus transforming the soil from a stable solid to a more liquid form.

Oligocene: An interval of time relating to, or denoting the third epoch of the Tertiary period, between the Eocene and Miocene epochs, from approximately 34 to 23 million years ago.

Outcrop: A rock formation that is visible on earth’s surface.

Paleozoic: An interval of time relating to, or denoting the era between the Precambrian eon and the Mesozoic era.

Pleistocene: An interval of time relating to, or denoting the first epoch of the Quaternary period, between the Pliocene and Holocene epochs, from approximately 2.6 million years ago to 11,000 years ago.

Pliocene: An interval of time relating to, or denoting the last epoch of the Tertiary period, between the Miocene and Pleistocene epochs, from approximately 5.5 to 2.6 million years ago.

Plutonic Igneous Rocks: Igneous rocks that have crystallized beneath the earth's surface.

Pore water pressure: Refers to the pressure of groundwater held within a soil or rock, in gaps between particles (pores).

Quaternary: The most recent period in geological time; includes the Pleistocene and Holocene Epochs.

Unique geologic feature: An important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

Unique paleontological resource: A fossil that meets one or more of the following criteria:

- It provides information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- It provides data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- It provides data regarding the development of biological communities or interaction between plant and animal communities.
- It demonstrates unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

3.7.1.2 Existing Conditions

The geology and soils of the SCAG region were defined by major forces that continue to shape the physical environment, including mountain building, faulting, erosion, deposition, and volcanic activity. These events occur both gradually and in potentially catastrophic episodes. The region that is now Southern California slowly "assembled" over a billion years from older materials recycled through the lithosphere (Earth's crust and mantle) or accumulated from precipitation and biological activity in the

oceans, or carried in as ash and dust in the atmosphere.¹ Tectonic forces and volcanism built up the landscape, and sediments eroded and deposited along the margin of the North American continent, later to be uplifted and recycled over again. Much of the continental crust that is now southern California was derived or recycled from crust that formed beneath the Pacific Ocean region and later subducted or accreted onto the margin of the North American continent.²

Geologic hazards are natural geologic events that can endanger human lives and threaten property. Potential geologic hazards include rupture of a known earthquake fault, seismic ground shaking, seismic ground failure including liquefaction, and landslides. Other hazards in relation to geology and soils include soil erosion or loss of topsoil, and development of structures and buildings in locations with geologic units or soils that are unstable or expansive soils. Similarly, not all areas within the SCAG region are served by sewer systems or have soils that are capable of adequately supporting septic tanks or alternative waste water disposal systems.

The SCAG region extends primarily over four³ California geomorphic provinces: the Mojave Desert, the Transverse Ranges, the Peninsular Ranges, and the Colorado Desert.⁴ These provinces are naturally defined geologic regions that display a distinct landscape or landform (**Figure 3.7-1, Geomorphic Provinces**).

Mojave Desert

The Mojave Desert geomorphic province occupies approximately 25,000 square miles. It is a broad interior region of isolated mountain ranges separated by expanses of desert. There are two important fault trends that control topography a prominent northwest-southeast trend and a secondary east-west trend. The Mojave province is wedged in a sharp angle between the Garlock Fault to the north (southern boundary Sierra Nevada) and the San Andreas Fault to the west (where it bends east from its northwest trend). The Nevada state line defines its eastern boundary, and the San Bernardino/Riverside county line defines its southern boundary. Portions of Los Angeles and San Bernardino Counties lie within this province.

¹ U.S. Geological Survey. *Information by Region – California*. Available online at: <https://earthquake.usgs.gov/earthquakes/byregion/california.php>, accessed July 22, 2019.

² Geologycafe.com. *Geologic History of California*. Available online at: https://geologycafe.com/geologic_history/index.html, accessed August 30, 2019.

³ A small sliver of the northwest corner of San Bernardino County is located in the Basin and Range province, and a small area in northern Ventura County is located in the Southern Coastal Ranges province.

⁴ California Geological Survey. 2002. *California Geomorphic Provinces*. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_36.pdf, accessed June 12, 2019.

Erosional features such as broad alluvial basins that receive non-marine sediments from the adjacent uplands dominate the Mojave Desert region. Numerous playas, or ephemeral lakebeds within internal drainage basins, also characterize the region. Throughout this province, small hills—some the remnants of ancient mountainous topography—rise above the valleys that are surrounded by younger alluvial sediments. The highest elevation approaches 4,000 feet above mean sea level (MSL), and most valleys lie between 2,000 to 4,000 feet above MSL.

Transverse Ranges

The Transverse Ranges are an east-west trending series of steep mountain ranges and broad alluvial valleys that extends approximately 320 miles from Point Arguello in the west to the Little San Bernardino Mountains in the east. The east-west structure of the Transverse Ranges is oblique to the normal northwest trend of coastal California, hence the name “Transverse.” This geomorphic province includes Ventura County and portions of Los Angeles, San Bernardino, and Riverside Counties. It also extends offshore to include San Miguel, Santa Rosa, and Santa Cruz islands.

There is intense north-south compression squeezing the Transverse Ranges and resulting in the prominent basins and ranges found in this province, including the Ventura Basin and the San Gabriel and San Bernardino Mountains. This is one of the most rapidly rising regions on earth. Several active faults, such as the San Andreas Fault Zone, are located in the Transverse Ranges. Other faults in the province include the Santa Clara River Valley Fault, the San Gabriel Fault Zone, the Santa Cruz Island Faults, the Santa Rosa Island Faults, and the Soledad Faults. This province is one of the most geologically diverse in California, containing a wide variety of bedrock types and structures. California’s highest peaks south of the central Sierra Nevada and the only Paleozoic rocks in the coastal mountains in the United States are found here. Because of the great lithological diversity, the province is further subdivided into eight subprovinces, each displaying its own geologic signature. Broad alleviated valleys, narrow stream canyons, and prominent faults separate these subprovinces.

Peninsular Ranges

The Peninsular Ranges province consists of a series of ranges separated by northwest trending valleys, subparallel to faults branching from the San Andreas Fault. This province is bounded on the northwest by the Transverse Ranges, on the east by the Colorado Desert, and extends south, encompassing the Los Angeles Basin and terminating 775 miles south of the United States–Mexico border.

The Peninsular Ranges includes the southern portion of Los Angeles County, the southwest corner of San Bernardino County, all of Orange County, and the San Jacinto Mountains and the Coachella Valley in the central portion of Riverside County. The ranges are composed of a series of northwest-southeast trending

mountains that are separated by several active faults, including the San Jacinto and Elsinore Fault zones. The Peninsular Ranges is one of the largest geologic units in western North America. Its highest elevations are found in the San Jacinto-Santa Rosa Mountains, with San Jacinto Peak reaching 10,805 feet above MSL. The orientation and shape of the Peninsular Ranges is similar to the Sierra Nevada, in that the west slope is gradual and the eastern face is steep and abrupt. Drainage from the province is typically by the San Diego, San Dieguito, San Luis Rey, and Santa Margarita Rivers.

Colorado Desert (Salton Trough)

The Colorado Desert geomorphic province (also referred to as the Salton Trough) is a depressed block between active branches of alluvium-covered San Andreas Fault with the southern extension of the Mojave Desert province in the east. Its roughly triangular shape is bounded to the east by the Chocolate Mountains, to the west by the Peninsular Ranges, and extends south into Mexico. The area is a low-lying, barren desert basin dominated by the Salton Sea. This province includes a large portion of Imperial County and a small portion of central Riverside County. The Colorado Desert is divided into two main valleys: the deep Imperial Valley to the south and the narrower and shallower Coachella Valley to the north. A good portion of both valleys lie below sea level with the lowest elevation found in the Salton Basin at 235 feet below MSL. The area is characterized by the ancient beach lines and silt deposits of extinct Lake Cahuilla. Geologic features include playas separated by sand dunes and the occurrence of seismic and a seismic subsidence due to the San Andreas Fault system.

Paleontological Setting

Given the diversity of geologic units found in the SCAG region, the paleontology is equally diverse, and, in some areas, fossils are quite abundant. A detailed analysis of the paleontological sensitivity of each geologic formation in the SCAG region is beyond the scope of this analysis and should be the subject of project-specific paleontological assessments (see recommendations below). The SVP (2010) defines fossils as being over 5,000 years in age, while the BLM (2009, 2016) generally considers fossils to be Pleistocene in age or older (11,700 years in age). Therefore, sediments younger than middle or early Holocene are too young to preserve fossil resources and have low (SVP) or PFYC 2 (BLM) paleontological sensitivity. Other types of geologic units with low sensitivity are moderately metamorphosed rocks, as the heat and pressure associated with metamorphism is likely to destroy fossils. High grade metamorphic rocks, as well as igneous rocks, have no paleontological sensitivity.

Some generalizations about the primary types of fossil bearing rocks can be made, based on the 1:750,000 scale geologic mapping by Jennings et al. (2010), as discussed below.

Cenozoic Marine Deposits

Cenozoic marine deposits date from the Paleocene to the Pliocene and were deposited on the ancient seafloor. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of marine fauna: invertebrates such as mollusks, crustaceans, echinoderms, and others; marine vertebrates such as shark and other fish, whales, seals, sea lions, and others; and even terrestrial vertebrates such as horse, camel, bison, and others that washed out to sea and where buried in the near-shore marine deposits.

These deposits are particularly common at the surface in the Transverse Ranges in Ventura County, where Eocene and Miocene units are prevalent, coastal Orange County, central Imperial County as scattered outcrops around the Salton Sea, and central Los Angeles County. In the subsurface, these deposits are likely to be encountered underlying the younger surficial alluvium across large parts of the Los Angeles and San Bernardino basins.

Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below:

Shallow Marine Deposits. Shallow marine deposits such as the San Pedro Sand and the Palos Verdes Sand have a strong record of preserving Pleistocene-aged marine and terrestrial fossils. The San Pedro Sand has yielded a diverse fauna of nearshore marine invertebrates such as crabs, snails, bivalves, gastropods, and echinoids and vertebrates such as sharks, bony fish, amphibians, reptiles, birds, whales, antelopes, mammoth, dire wolves, rodents, and bison. These units are common along coastal southern California, including Ventura, Los Angeles, and Orange Counties in the SCAG region. Many abundant fossil localities have been collected from excavations in San Pedro around the Port of Los Angeles, where the setting is very similar to that of the program area, with artificial fill covering old marine deposits. These deposits have yielded thousands of specimens of marine invertebrates that are significant for reconstructing changes in shallow marine ecosystems as the climate has changed since the Pleistocene.⁵

Fernando Formation. The Fernando Formation dates to the Pliocene and consists of marine siltstone, sandstone, pebbly sandstone, and conglomerate. The Fernando is common in the Transverse Ranges, particularly in Los Angeles County, where it is found extensively in the subsurface throughout the Los Angeles Basin. The lower part of the Fernando Formation consists of a pebble-cobble conglomerate in a sandstone matrix that fines upwards into a coarse sandstone and then a silty sandstone. The upper Fernando Formation consists of coarse-grained sandstone with conglomerate lenses. The Fernando

⁵ SWCA Environmental Consultants. 2019. *Draft Paleontological Resources Technical Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments.*

Formation has an extensive record of preserving scientifically significant fossils, including invertebrates such as mollusks, echinoids, and bryozoans, fish, squid, and a number of unidentified megafossils.⁶

Bouse Formation. The Bouse Formation spans the early Pliocene to the late Miocene and has been interpreted to represent either a marine estuarine or lacustrine depositional environment. The Bouse Formation is found in the Mojave Desert Geomorphic Province and consists of calcareous clay, silt, and sand. Abundant common invertebrate fossils such as gastropods, ostracodes, barnacles, and foraminifera, as well as fish and plants are known from the Bouse Formation.⁷

Puente Formation. The Puente Formation, often synonymous with the Modelo Formation, consists of marine sandstone, siltstone, and shale that dates from the early Pliocene to the Miocene. The Puente Formation has a history of preserving both invertebrate and vertebrate marine fossils, such as cephalopods, crustaceans, fishes, and other marine and terrestrial vertebrates. The Puente Formation is common in the Peninsular Ranges and Transverse Ranges provinces.⁸

Monterey Formation. The Monterey Formation records the filling of a deep basin formed by tectonism along the California margin and constitutes one of the major elements of California geology and can range up to several thousands of feet thick. The Monterey ranges in age from the Pliocene to middle Miocene and can be found throughout the basins of the Peninsular Ranges and Transverse Ranges provinces in the subsurface. The Monterey has yielded a diverse fauna consisting of some mollusks and common fish skeletons, and remains of larger marine macrofauna such as whales and the giant extinct *Desmostylus*, as well as birds, crocodiles and rare land organisms such as horse and land plants.⁹

Vaqueros Formation. The Vaqueros Formation consists of predominately limey sandstone interbedded with siltstone and shale deposited in an offshore basin. The Vaqueros Formation is common in the Peninsular Ranges and Transverse Ranges provinces and dates from the early Miocene to the late Eocene. Common fossils in the Vaqueros include marine invertebrates such as barnacles, ostreids, pectinids and marine ichnofossils, as well as terrestrial vertebrates and marine megafauna.¹⁰

⁶ SWCA Environmental Consultants. 2019. Draft Paleontological Resources Technical Report for the 2020-2045 Regional Transportation Plan and Sustainable Communities Strategy for the Southern California Association of Governments.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

Cenozoic Terrestrial Deposits

Cenozoic terrestrial deposits date from the Paleocene to the Pleistocene and were deposited in terrestrial environments as alluvial sediments, fluvial sediments, and lacustrine deposits. These geologic formations are well known for being highly fossiliferous in southern California and may preserve a wide variety of terrestrial fauna: invertebrates such as mollusks; plants; and abundant terrestrial vertebrates such as horse, camel, bison, and others.

These deposits are particularly common at the surface in the Mojave and Colorado Desert provinces but are found scattered across the entire SCAG region. Some of these units with the highest paleontological sensitivity (BLM PFYC class 4 or 5, SVP high potential) are discussed below.

Pleistocene Alluvium. Pleistocene alluvium consists of sand, silt, and gravel deposited in terrestrial environments as the result of erosion of surrounding highlands and dates to the Pleistocene (11,000–2.58 ma). Pleistocene sediments have a rich fossil history in southern California.¹¹

The most common Pleistocene terrestrial mammal fossils include the bones of mammoth, horse, bison, camel, and small mammals, but other taxa, including lion, cheetah, wolf, antelope, peccary, mastodon, capybara, and giant ground sloth, have been reported, as well as birds, amphibians, and reptiles such as frogs, salamanders, snakes, and turtles. In addition to illuminating the striking differences between Southern California in the Pleistocene and today, this abundant fossil record has been vital in studies of extinction, ecology, and climate change.¹²

An excellent example of the striking abundance and diversity of these Pleistocene sediments comes from Riverside County, just south of San Bernardino County, where nearly 100,000 identifiable fossil specimens representing 105 vertebrate, invertebrate, and plant species were collected from more than 2,000 individual localities during the construction of the dam at Diamond Valley Lake and are now housed at the Western Science Center in Hemet, California. This site represents the second largest late Pleistocene fossil assemblage known from the American Southwest after the La Brea Tar Pits in Los Angeles. Other Ice Age fossils have been found throughout the inland valleys and the Mojave Desert.¹³

Manix Formation. The Manix Formation consists of around 40 m of lacustrine, fluvial, and alluvial sediments deposited in and around the Middle to late Pleistocene Lake Manix. This formation occurs to the east of Barstow in the Mojave Desert. The lacustrine and fluvial deposits in this formation have

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

yielded a diverse fauna, preserving invertebrates such as mollusks and ostracods as well as aquatic and terrestrial vertebrates such as fish, birds, and numerous Ice Age mammals.¹⁴

San Timoteo Formation. The San Timoteo Formation dates from the Pleistocene to the Pliocene and consists of stream-deposited alluvial sediments that are made up of detritus eroded from the San Bernardino Mountains in the Mojave Desert and southeastern Transverse Ranges provinces. A number of significant fossil deposits have been discovered in the San Timoteo. The construction of the El Casco Substation in San Timoteo Canyon between September 2009 and January 2011 produced numerous fossils, including riparian and aquatic plants, insects, slugs and snails, fish, tortoise, lizards, snakes, small mammals, birds, a giant camel, a llama, two ground sloths, and two different types of saber tooth cats. The Shutt Ranch fauna is a collection of hundreds of significant fossils belonging to 37 species of small mammals, as well as larger macrofauna such as sloth, camel, deer, horse, and others, found in the San Timoteo beds. The scientific literature records a rich fossil history from this unit that includes fossils of more than 30 plant taxa and over forty animal taxa, including camels, deer, sloth, elephants, bears, rabbits, and rodents. This fauna has been the subject of study for almost 100 years.¹⁵

Avawatz Formation. The Avawatz Formation consists of four members: conglomerate, siltstone and sandstone, breccias, and sandstone, siltstone, and tuff deposited in alluvial fans, floodplains, and lakes, spanning a period of around 40 Ma, during the late Miocene. The Avawatz Formation is found in the Avawatz Mountains in the Mojave Desert province. The Avawatz preserves a typical Miocene mammalian fauna of early ancestors of horses and camels, as well as abundant rodents and some reptiles. In addition, the Avawatz is known for preserving exceptional fossil trackways from dozens of different types of animals, including birds, camels, and cats. Trackways are significant fossil resources, and provide valuable information on not only foot morphology, but also how an animal moved and potentially whether it was part of a herd. The Raymond M. Alf Museum in Claremont, California, has more than 100 fossil trackways collected from the Avawatz in San Bernardino County.¹⁶

Topanga Group. The Topanga Group is predominantly composed of sandstone but also some siltstone, breccia, and shale. Formations within the Topanga Group are common across the basins of the Peninsular Ranges and Transverse Ranges provinces. The Topanga is interpreted to represent wave-dominated coastal deposits grading into river-dominated deltaic deposits and fluvial deposits in the upper parts of the formation. The Topanga Formation dates to the middle Miocene, around 20 to 16 Ma. Fossils from the Topanga Formation include numerous invertebrate and vertebrate remains from both

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

marine and terrestrial settings, including sharks, bony fishes, birds, whales, dolphins, and land mammals.¹⁷

Barstow Formation. The Barstow Formation is composed of fluvial and lacustrine sediments interbedded with air-fall tuff beds deposited in lakes from around 14.8 to 19.3 ma. This formation crops out across the Mojave Desert province. The fossil mammal fauna of the Barstow is so abundant it has been used to define a biostratigraphic portion of the middle Miocene called the Barstovian North American Land Mammal Age. The University of California, Berkeley, conducted extensive excavations of the mammal fossils shortly after they were first discovered in the Mud Hills. The most common fossils from the Barstow Formation include early ancestors of horses, antelope, and camels, as well as small mammals such as mice and rabbits, with birds, fish, invertebrates, reptiles, and early ancestors of canines and elephants less common but well represented. In addition to the vertebrate fauna, an extensive record of exceptionally preserved small organisms, such as insects and arthropods, are known from the Barstow. These fossils have been extensively studied and reported on in the scientific literature, leading to a better understanding of the early evolution of many modern animals ranging from horses and camels to insects, as well as paleoecology.¹⁸

Earthquake Faults

The SCAG region is seismically active. In the past 100 years, several earthquakes of magnitude 5.0 or larger have been reported on the active San Andreas, San Jacinto, Elsinore, and Newport-Inglewood fault systems. These four fault systems are concentrated in the western portion of the SCAG region, running in a northwest to southeast direction. The San Andreas Fault lies furthest to the east, extending just above the northern border of Ventura County and the San Gabriel Mountains, eventually terminating at the Salton Sea. As a result, significant earthquake hazards exist in the region.¹⁹ Injury to people and damage to structures during earthquakes can be caused by actual surface rupture along an active fault, by ground shaking from a nearby or distant fault, liquefaction, or dam failure. In Southern California, the last earthquake exceeding Richter magnitude 8.0 occurred in 1857. Much more frequent are smaller temblors, like the relatively moderate (but still exceedingly damaging) 1971 San Fernando and 1994 Northridge

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ It should be noted that new faults continue to reveal themselves, such as in the case of the Ridgecrest quake of 2019, and the potential seismic threats posed by these faults also continue to be reevaluated on the basis of new geologic information and analysis.

earthquakes, both classified as magnitude 6.7 earthquakes.²⁰ In July 2019, a magnitude 7.1 earthquake struck on a previously unnamed fault system near Ridgecrest in San Bernardino County. Two foreshocks of 5.4 and 6.1 preceded the larger 7.1 earthquake.

A fault is a fracture in the crust of the earth along which there has been displacement of the sides relative to one another parallel to the fracture. Most faults are the result of repeated displacements over a long period of time. Numerous active and potentially active faults have been mapped in the region (**Table 3.7-1, Characteristics of Major Faults in the SCAG Region**, and **Figure 3.7-2, Alquist-Priolo Zones and Areas of Probabilistic Ground Acceleration**). The SCAG region contains lateral strike slip faults similar to the San Andreas and various identified and hidden blind thrust faults. A fault trace is the surface expression of a particular fault. Buried or blind thrust faults are thought to underlie much of the SCAG region. These “buried” faults do not exhibit readily identifiable traces on the earth’s surface and are typically at considerable depth within the underlying geologic formation. Although these faults typically do not offset surface deposits, they can generate substantial ground shaking. The California Geological Survey (CGS) defines active faults as those that have exhibited evidence of displacement during Holocene (10,000 years ago to present) period. Potentially active faults are defined as faults that have exhibited evidence of displacement during the Pleistocene period (10,000 years to 1.8 million years ago). Class A faults have slip rates greater than 5 millimeters per year (mm/yr) and generally have substantial historic seismic data available, while Class B faults have slip rates smaller than 5 mm/yr and, as a rule, historic seismic data on which to develop reliable recurrence intervals of large events is lacking.²¹

Table 3.7-1
Characteristics of Major Faults in the SCAG Region

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Class A Faults				
San Andreas	Los Angeles	Historic	24.0–34.0	7.2–7.5
	San Bernardino	Late Quaternary		
	Riverside	Latest Quaternary		
	Imperial			

²⁰ The human and economic damage caused by earthquakes tends to increase with time, as more and more people and property come to occupy more and more of the land, thus cumulatively increasing the exposure of human habitation to seismic hazard. The 1994 Northridge earthquake, though hardly the most severe experienced by Southern California, was deemed the most expensive, in terms of its economic cost and its damage to human property. The California Office of Emergency Services claimed a \$15 billion total damage estimate.

²¹ United States Geological Survey. 2000. *Quaternary Fault and Fold Database Background*. Available online at: <https://earthquake.usgs.gov/hazards/qafaults/background.php>, accessed July 15, 2019.

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
San Jacinto – Imperial Fault Zone	San Bernardino	Historic	4.0–20.0	6.6–7.2
	Riverside	Holocene		
	Imperial	Late Quaternary		
		Latest Quaternary		
Elsinore Fault Zone	Los Angeles	Historic	2.5–5.0	6.8–7.1
	Orange	Holocene		
	Riverside	Late Quaternary		
	Imperial	Latest Quaternary		
	San Bernardino			
Class B Faults				
Elsinore and San Jacinto Fault Zones (Non A Faults)				
Brawley Seismic Zone	Imperial	Historic	25.0	6.4
Chino	San Bernardino	Latest Quaternary	1.0	6.7
	Riverside			
Elmore Ranch	Imperial		1.0	6.6
Garlock Fault Zones				
Garlock – west	Los Angeles	Latest Quaternary	6.0	7.3
	San Bernardino			
Garlock – east	San Bernardino	Late Quaternary	7.0	7.5
		Latest Quaternary		
Owl Lake	San Bernardino	Latest Quaternary	2.0	6.5
Transverse – Ranges and Los Angeles Basin				
Clamshell-Sawpit	Los Angeles		0.5	6.5
Cucamonga	San Bernardino		5.0	6.9
Hollywood	Los Angeles	Late Quaternary	1.0	6.4
		Latest Quaternary		
Holser	Los Angeles	Late Quaternary	0.4	6.5
	Ventura			
Malibu Coast	Los Angeles	Late Quaternary	0.3	6.7
	Ventura	Latest Quaternary		
Mission Ridge – Arroyo Parida – Santa Ana	Ventura	Late Quaternary	0.4	7.2
		Latest Quaternary		
Newport-Inglewood	Los Angeles	Historic	1.0	7.1
	Orange	Late Quaternary		
		Latest Quaternary		
Oak Ridge	Ventura	Holocene	4.0	7.0
		Late Quaternary		
		Latest Quaternary		
Palos Verdes	Los Angeles	Late Quaternary	3.0	7.3
		Latest Quaternary		
Raymond	Los Angeles	Late Quaternary	1.5	6.5
		Latest Quaternary		
Red Mountain	Ventura	Late Quaternary	2.0	7.0
		Latest Quaternary		
San Cayetano	Ventura	Late Quaternary	6.0	7.0
		Latest Quaternary		

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
San Gabriel	Ventura	Holocene	1.0	7.2
	Los Angeles	Late Quaternary		
	San Bernardino	Latest Quaternary		
San Jose	Los Angeles	Late Quaternary	0.5	6.4
Santa Monica	Los Angeles	Late Quaternary	1.0	6.6
		Latest Quaternary		
Santa Ynez (East)	Ventura	Late Quaternary	2.0	7.1
Santa Susana	Ventura Los Angeles	Historic	5.0	6.7
		Late Quaternary		
Sierra Madre	Ventura	Holocene	2.0	7.2
	Los Angeles	Historic		
	San Bernardino	Late Quaternary		
Simi-Santa Rosa	Ventura	Late Quaternary	1.0	7.0
	Los Angeles	Latest Quaternary		
Ventura-Pitas Point	Ventura	Latest Quaternary	1.0	7.0
Verdugo	Los Angeles	Late Quaternary	0.5	6.9
		Latest Quaternary		
Los Angeles Blind Thrusts				
Upper Elysian Park	Los Angeles	Quaternary	1.3	6.4
Northridge	Ventura	Historic	1.5	7.0
	Los Angeles			
Puente Hills blind thrust	Los Angeles	Historic	0.7	7.1
	Orange	Quaternary		
San Joaquin Hills	Orange	Latest Quaternary	0.5	6.6
Transverse – Ranges and Mojave				
Blackwater	San Bernardino	Latest Quaternary	0.6	7.1
		Undifferentiated Quaternary		
Burnt Mountain	San Bernardino	Historic	0.6	6.5
	Riverside	Latest Quaternary		
Calico-Hidalgo	San Bernardino	Historic	0.6	7.3
		Latest Quaternary		
		Undifferentiated Quaternary		
Cleghorn	San Bernardino	Late Quaternary	3.0	6.5
		Undifferentiated Quaternary		
Eureka Peak	San Bernardino	Historic	0.6	6.4
	Riverside	Latest Quaternary		
Gravel Hills – Harper Lake	San Bernardino		0.6	7.1
Helendale – S. Lockhart	San Bernardino	Late Quaternary	0.6	7.3
		Latest Quaternary		
Johnson Valley (Northern)	San Bernardino	Historic	0.6	6.7
		Latest Quaternary		

Fault	Counties	Recency	Slip-Rate (mm/yr)	Max. Moment
Lenwood – Lockhart – Old Woman Springs	San Bernardino	Historic	0.6	7.5
		Late Quaternary		
		Latest Quaternary		
North Frontal Fault zone (Western)	San Bernardino	Late Quaternary	1.0	7.2
		Latest Quaternary		
North Frontal Fault zone (Eastern)	San Bernardino	Latest Quaternary	0.5	6.7
Pinto Mountain	San Bernardino	Late Quaternary	2.5	7.2
		Latest Quaternary		
Pisgah – Bullion Mountain – Mesquite Lake	San Bernardino	Historic	0.6	7.3
		Late Quaternary		
		Latest Quaternary		
S. Emerson – Copper Mountain	San Bernardino	Latest Quaternary	0.6	7.0

Note:

Recency of fault movement: Refers to the time period when the fault is believed to have last moved. The age is expressed in terms of the Geologic Time Scale. Generally, the older the activity on a fault, the less likely it is that the fault will produce an earthquake in the near future. For assessing earthquake hazard, usually only faults active in the Late Quaternary or more recently are considered. These include the following three non-overlapping time periods: *Historic:* Refers to the period for which written records are available (approximately the past 150 years).

Latest Quaternary: Refers to a period of time between the present and 15,000 years before present. Faults of this age are commonly considered active.

Late Quaternary: Refers to the time period between the present and approximately 130,000 years before the present.

Where no recency data are given, no determination has been made.

The Maximum Moment Magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event [CGS, 2002b]. Richter magnitude estimations can be generally higher than moment magnitude estimations.

Source:

Southern California Probabilistic Seismic Hazard Assessment Maps (PSHA). Available online at: <https://www.conservation.ca.gov/cqs/Pages/PSHA/shaking-assessment.aspx>, accessed 13 May 2019.

U.S. Geological Survey, Quaternary Fault and Fold Database. Available online at: https://earthquake.usgs.gov/cfusion/quake/query_main_AB.cfm?CFID=1322837&CFTOKEN=66fceb6a140aa938-F82CC7E1-A43F-D9BB-AC8B50A1C3900752, accessed 13 May 2019.

Petersen, M.D., W.A. Bryant, and C.H. Cramer. 1996. Probabilistic Seismic Hazard Assessment for the State of California, California Department of Conservation, Division of Mines, 1996. Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG 96-08.

Seismic Hazards

Movements on the previously identified faults would likely cause future earthquakes in the SCAG region. Earthquakes can originate in areas where potential seismic energy has built up along a fault over time, but has not yet been released in the form of an earthquake. Studies supported by the National Earthquake Hazards Reduction Program enable scientists to evaluate the hazard level in different areas. In Southern California, scientists estimate that the probability of a magnitude 7.0 or greater earthquake by the year 2045 is 75 percent.²²

²² United States Geological Survey, *Uniform California Earthquake Rupture Forecast, Version 3*, March 2015.

The four major hazards generally associated with earthquakes are ground shaking, surface fault rupture (ground displacement), liquefaction ground failures, and settlement. A detailed discussion of these types of hazards is found below.

Ground Shaking

Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in many areas of the SCAG region. The composition of underlying soils in areas located relatively distant from faults can intensify ground shaking. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

Earthquakes on the various and potentially active fault systems are expected to produce a wide range of ground shaking intensities in the SCAG region (**Figure 3.7-2, Alquist-Priolo Zones and Potential Areas of Probabilistic Ground Acceleration**). The estimated maximum moment magnitudes represent characteristic earthquakes on particular faults.²³ While the magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and characteristics of geologic media. Generally, intensities are highest at the fault and decrease with distance from the fault.

Surface Fault Rupture

The surface expression of earthquake fault rupture typically occurs in the immediate vicinity of the originating fault. The magnitude and nature of the rupture may vary across different faults, or even along different segments of the same fault. Rupture of the surface during earthquake events is generally limited to the narrow strip of land immediately adjacent to the fault on which the event is occurring. Surface ruptures associated with the 1992 Landers earthquake in San Bernardino County extended for a length of 50 miles, with displacements varying from 1 inch to 20 feet.

The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults, and to issue appropriate maps. Numerous active and potentially active earthquake faults are mapped throughout the SCAG region (**Figure 3.7-2**). Detailed maps are distributed to all affected cities, counties, and state agencies for their use in planning new or

²³ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event. See Table 4.6-1 for the moment magnitudes associated with particular faults.

renewed construction. Local agencies must regulate most development projects within the zones, including all land divisions and most structures intended for human habitation. Fault surface rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake, or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by ground shaking. Fault creep is the slow rupture of the earth's crust. Not all earthquakes result in surface rupture (e.g., the 1994 Northridge earthquake). Potentially active faults have demonstrated movement within Pleistocene period (approximately 1.6 million years ago). According to the CDMG, active and potentially active faults must be considered as potential sources of fault rupture.

Liquefaction and Ground Failure

Liquefaction has been responsible for ground failures during almost all of California's large earthquakes. The depth to groundwater can control the potential for liquefaction; the shallower the groundwater, the higher the potential for liquefaction. Earthquake-induced liquefaction most often occurs in low-lying areas with soils or sediments composed of unconsolidated, saturated, clay-free sands and silts, but can also occur in dry, granular soils, or saturated soils with some clay content. Within the SCAG region, liquefaction potential is a function of the potential level of ground shaking at a given location and depends on the geologic material at that location (**Figure 3.7-3, Areas of Potential Liquefaction**). Structural failure often occurs as sediments liquefy and cannot support structures that are built on them. Alluvial valleys and coastal regions are particularly susceptible to liquefaction. These areas can include but are not limited to flood plains and former wetlands such as Marina Del Rey, Playa Del Rey and areas near the Los Angeles River, the Santa Monica Bay, and Los Alamitos Bay in Los Angeles County, Areas in the vicinity the Santa Clara River, and Calluguas Creek outlets to the ocean in Ventura County. Additionally, there are areas in northern Los Angeles County that are susceptible to liquefaction as a result of existing geological conditions (**Figure 3.7-3**). Unconsolidated alluvial deposits in desert region deposits are rarely saturated because of the depth to the water table, and are thus, less susceptible to liquefaction than unconsolidated alluvium adjacent to stream channels.

Earthquake-Induced Subsidence

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Within the SCAG region, artificial fills, unconsolidated alluvial sediments, slope washes, and areas with improperly engineered construction-fills

typically underlie areas susceptible to this type of settlement. The July 2019 M7.1 Ridgecrest Earthquake and its preceding M6.4 and M5.4 foreshocks were felt across much of Southern California and into parts of Arizona, Nevada, and the San Francisco Bay Area. The M7.1 mainshock was the strongest earthquake to occur in the state in nearly 20 years. Although mobile homes, chimneys, and gas lines suffered damage, no major subsidence or landslide incidents were reported as a result of this earthquake.

Seismically Induced Landslides

Strong ground shaking during earthquake events can generate landslides and slumps in uplands or coastal regions near the causative fault. Seismically induced land sliding has typically been found to occur within 75 miles of the epicenter of a magnitude 6.5 earthquake. Seismically induced landslides would be most likely to occur in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated hillside areas. Areas of the SCAG region are susceptible to seismically induced land sliding because of the abundance of active faults in the region and the existing landslide hazards (**Figure 3.7-4 Areas of Potential Landslides**). Specifically, areas with high susceptibility to earthquake-induced landslides are concentrated along mountain ranges in the SCAG region: Santa Ana Mountains, San Gabriel Mountains, Santa Susanna Mountains, Santa Monica Mountains, Sulphur Mountain, San Jacinto Mountains, and the San Bernardino Mountains.

Earthquake-Induced Inundation and Tsunamis

Because the West Coast of the United States is seismically active, California is subject to flood hazard from tectonic activity capable of generating submarine earthquakes, volcanic eruptions, and landslides. Considering its proximity to the Pacific Ocean, the inundation by tsunamis (seismic sea waves) or seiches (oscillating waves in enclosed water bodies) can occur along the California coast in the event of significant earthquake. The SCAG region consists of approximately 150 miles of coastline. The coastline of SCAG region has been mapped as being in a location potentially subject to tsunamis and the existing tsunami warning system (**Figure 3.7-5, Areas Susceptible to Tsunamis**).²⁴ Additionally, several large water impoundments in the SCAG region also have the potential to induce seiche inundation. For purposes of a relative comparison, an earthquake with its epicenter in Alaska and with a magnitude of 8.5 (Richter scale) generated a seismically induced sea wave with a maximum wave height of 11 feet in the Monterey Harbor, on the central coast of California north of the SCAG region. The most recent historical tsunami to affect the coast of the SCAG region was in 2012, when a magnitude 7.5 earthquake

²⁴ California State Department of Conservation. *California Official Tsunami Inundation Maps*. Available online at: <https://www.conservation.ca.gov/cgs/tsunami/maps#Interactive>, accessed June 24, 2019.

struck the Queen Charlotte Islands of the west coast of Canada. A resulting tsunami was 0.08 meter or 0.26 foot and occurred in Santa Monica.²⁵

Soils and Geologic Materials

Soils within the SCAG region are classified by distinguishing characteristics and are arranged within soil associations.²⁶ Soils throughout the region differ in origin, composition, and slope development. Individual soil characteristics are important in determining the suitability of the soil for agricultural use or urbanized development. The formation of surficial soil depends on the topography, climate, biology, local vegetation, and the material on which the soil profile is developed. Although many soils in the SCAG region are suitable for agricultural uses, each soil type may have properties that could limit its uses and represent an agricultural or development hazard.²⁷ These limitations are listed and discussed below. **Figure 3.7-6, General Soil Types**, shows the general location of soil types contained within the SCAG region.

Erosion

Soil erosion is a natural ongoing process that transports, erodes, and displaces soil particles through a transport mechanism such as flowing water or wind. In addition, erosion results from manmade activity when soil coverings are stripped leaving the underlying soil exposed to the elements. Erosion is the physical detachment and movement of soil materials through natural processes or human activities. The determination of soil erosion potential is a complex process generally applied to site specific areas using the soil erodibility K factor index. The K factor combines the detachability of soil, runoff potential of the soil, and transportability of the sediment eroded from the soil into one measure for soil erodibility. The K factor is just one element of the RUSLE (Revised Universal Soil Loss Equation), which is used by government agencies to make erosion predictions for regulatory and conservation planning uses.

Determining areas of potential erosion is made more complex due to the substantial geomorphic diversity in the SCAG region. Generally, there is a high potential for erosion in mountainous areas and areas along the margins of mountainous areas, where there is a high intensity of rainfall and where the soils are considered erosive. Clay soils typically have low erodibility because the soil particles are

²⁵ California State Department of Conservation. *List of Historic Tsunamis in California*. Available online at: <https://www.conservation.ca.gov/cgs/tsunami>, accessed June 24, 2019.

²⁶ Soil Association: A mapping unit consisting of a group of defined and taxonomic soil units occurring together in an individual and characteristic pattern over a geographic region.

²⁷ U.S. Department of Agriculture, Soil Conservation Service. 1970. *Soil Survey of Ventura Area, California*. Washington, DC.

resistant to detachment. Soils having a high silt content are the most erosive as the particles are easily detached, tend to crust, and produce high rates of runoff.²⁸

Soil

Three soil factors are strongly associated with soil erosion potential: texture, compactness, and structure. Of these, texture plays the most dominant role. Intermediate textured soil types, such as silt, tend to be most erodible, whereas clay and particles coarser than sand are more resistant to erosion. Slopes influence the rate and amount of runoff, and in turn influence erosion. Loose texture and steep slopes primarily result in high wind erosion potential in soils. Data on Soil Erodibility (K factor) from the State Water Resources Control Board indicates there are areas within the SCAG region with both moderate (K factor 0.25–0.45) and high susceptibility (K factor > 0.45) of erosion. In Ventura County, most of the Santa Monica Mountains and Topatopa Mountains are characterized by soils that are moderately susceptible to erosion. In Los Angeles County, most soils within the urbanized areas south of the San Gabriel Mountains are moderately susceptible to erosion. These soils continue southeast into Orange County where almost all of the land area is covered by soils moderately susceptible to erosion. In San Bernardino County, the majority of soils are not moderately or highly susceptible, however several pockets of moderately erodible soils exist throughout the county, particularly surrounding the Ivanpah and Piute Mountains and Lanfair and Ivanpah Valleys; one small area of highly erodible soil exists in the northeast corner of the county within the Mesquite Valley. Riverside County also features both moderately and highly susceptible erodible soils that are mainly concentrated in the western portion of the county immediately adjacent to the east and west of the Lakeview Mountains. Finally, Imperial County is covered by moderately erodible soils on its west side, surrounding the Salton Sea and extending south.²⁹

Erosion caused by wind is most severe in arid regions where sandy or loamy sediments are not covered by vegetation and exposed to severe wind conditions, such as the eastern portions of San Bernardino, Riverside, and Imperial Counties. Human intervention can accelerate the natural erosion process. For instance, typical consequences of development increase erosion potential due to the removal of vegetative cover and reduction of overall permeable area. These activities can lead to increased water runoff rates and concentrated flows that have greater potential to erode exposed soils. The effects of excessive erosion range from nuisance problems that require additional maintenance, such as increased siltation in storm drains, to instances of more severe damage where water courses are down-cut and gullies develop. These

²⁸ Michigan State University, RUSLE Online Soil Erosion Assessment Tool. Available online at: <http://www.iwr.msu.edu/rusle/kfactor.htm>, accessed June 24, 2019.

²⁹ California State Water Resources Control Board. RUSLE K Values. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/guidance/k_factor_map.pdf, accessed June 24, 2019.

processes can eventually undermine adjacent structures or topography. Human activities that disturb soils in arid regions also increase wind erosion potential. Many of the desert areas in the SCAG region are susceptible to blowing sand, a severe form of wind erosion that damages property and accumulates soil on roadways. The majority of the soils in the SCAG region exhibit moderate to high erosion potential, which can be compounded by development. **Figure 3.7-7, Soils with Moderate to High Erosion Potential**, shows the general location of soils within the SCAG region that exhibit moderate to high erosion potential.

Coastal

Coastal erosion is a natural process that is typically the most visible during storm events. Beach sand is replenished by sediment loads in rivers and gentler waves after storm events or during summer months. Erosion rates of 1 inch per year are considered moderate. However, depending on the severity and duration of storm events and the degree of human intervention with natural coastline or riverine processes, coastal erosion can proceed at considerable rates, resulting in rapid visible coastline recession. In areas of extreme coastal erosion, such as the cities of Rancho Palos Verdes and Malibu, slopes have been undercut by waves during storm events, causing slope failure and resulting in property damage and risks to human health and safety. The coastal regions of Los Angeles, Orange, and Ventura Counties are susceptible to wave erosion hazards.

The Pacific Ocean borders the Peninsular Ranges province and the Transverse Ranges Province on the west. Nearly all the sea cliffs along the coast display some sign of coastal erosion. Coastal retreat is attributable to various processes, including undercutting from wave action, weathering and erosion of rocks and cliffs, emergence of groundwater at the cliff face, rain-wash, and land sliding. Additionally, these naturally occurring forces can be assisted by human activity such as coastal road construction, channelization of surface water flows, or development on marine terraces.

Expansive Soils

Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Typically, soils that exhibit expansive characteristics comprise the upper 5 feet of the surface. The effects of expansive soils could damage foundations of aboveground structures, paved roads and streets, and concrete slabs. Expansion and contraction of soils, depending on the season and the amount of surface water infiltration,

could exert enough pressure on structures to result in cracking, settlement, and uplift. Locations of expansive soils are site-specific and can generally be remedied through standard engineering practices.

Unstable Soil Conditions

Settlement

Loose, soft soil material comprised of sand, silt and clay, if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly but over time can amount to more than most structures can tolerate. Building settlement could lead to structural damage such as cracked foundations and misaligned or cracked walls and windows. Settlement problems are site-specific and can generally be remedied through standard engineering applications.

Land Subsidence

Land subsidence is caused by a variety of agricultural, municipal or mining practices that contribute to the loss of support materials within a geologic formation. Agricultural practices can cause oxidation and subsequent compaction and settlement of organic clay soils or hydro-compaction allowing land elevations to lower or sink. Agricultural and municipal practices can result in the overdraft of a groundwater aquifer thereby causing aquifer settlement. Groundwater overdraft occurs when groundwater pumping from a subsurface water-bearing zone (aquifer) exceeds the rate of aquifer replenishment. The extraction of mineral or oil resources can also result in subsidence from removal of supporting layers in the geologic formation. Substantial subsidence occurs in the SCAG region due to groundwater extraction and subsequent lowering of the groundwater surface, typically beneath a confining clay stratum. Land subsidence can also result from persistent and prolonged drought. Prolonged drought can also exacerbate the above causes of subsidence as in the case of groundwater extraction for agricultural purposes. As there is less surface water available, more groundwater is extracted, thus increasing the potential for subsidence.³⁰

The impact of subsidence could include lowering of the land surfaces, increased potential for flooding, potential disturbance or damage to transportation infrastructure, buried pipelines and associated structures, and damage to structures designed with minimal tolerance for settlement. Historic occurrences of land subsidence due to groundwater extraction are reported in the SCAG region within

³⁰ U.S. Geological Survey. n.d. Areas of Land Subsidence in California. Available online at: http://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html, accessed July 23, 2019.

Antelope Valley, Coachella Valley, and the Mojave River Basin Area. With groundwater level declines as high as 300 feet in some areas, subsidence has caused permanent damage to many of these landscapes.³¹

Landslides

Landslides are the rapid downslope movement of a mass of material that moves as a unit and carries with it all the loose material above bedrock. Landslides occur more frequently on steep slopes or after periods of heavy rain due to the additional weight of water and its lubricating qualities. The material in the slope and external processes such as climate, topography, slope geometry, and human activity can render a slope unstable and eventually initiate slope movements and failures. Changes in slope material such as improperly engineered fill slopes can alter water movement and lead to chemical and physical changes within the slope. Unfavorable fracture or joint orientation and density may develop as a rock material responds to reduced weight or strain relief, resulting in a decreased ability of the rock material to resist movement. Removing the lower portion (the toe) decreases or eliminates the support that opposes lateral motion in a slope. This can occur by man-made activity such as excavations for road-cuts located along a hillside. Oversteepening a slope by removing material can also reduce its lateral support. Placement of buildings on slopes can increase the amount of stress that is applied to a potential failure surface. Shaking during an earthquake may lead materials in a slope to lose some cohesion, cause liquefaction, or change pore water pressures. Landslide-susceptible areas within the SCAG region are those with low-strength soil material on hilly topography, for example, the Portuguese Bend and Point Fermin areas of the Palos Verdes Peninsula, and the Blackhawk slide area on the north slope of the San Bernardino Mountains. Factors that decrease resistance to movement in a slope include pore-water pressure, material changes, and structure.

Soils Capable of Supporting Septic Tanks or Alternative Waste Water Disposal Systems

The California State Water Resources Control Board has specific guidelines and requirements with regard to soil suitability for septic tanks and alternative waste water disposal systems in their publication 3.2C- Construction Practices – Onsite Wastewater Treatment Systems (OWTS).³² Soils with poorly or excessively drained soils are generally not suitable for septic tanks or alternative waste water disposal

³¹ California Water Foundation. April 2014. Land Subsidence from Groundwater Use in California. Available online at: [https://water.ca.gov/LegacyFiles/waterplan/docs/cwpu2013/Final/vol4/groundwater/13Land Subsidence Groundwater Use.pdf](https://water.ca.gov/LegacyFiles/waterplan/docs/cwpu2013/Final/vol4/groundwater/13Land%20Subsidence%20Groundwater%20Use.pdf), accessed June 24, 2019.

³² California State Water Resources Control Board. 3.2C – Construction Practices – Onsite Wastewater Treatment Systems (OWTS). Available online at: https://www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia/3_2c_const_owts.html, accessed June 24, 2019.

systems.³³ According to the U.S. Environmental Protection Agency, it is recommended that onsite wastewater disposal systems incorporate native soil knowledge into system design to prevent groundwater contamination and ensure long-term performance. Most often, a percolation test is performed to assess the infiltration rate and soil texture, both of which determine the site suitability for a waste water disposal system. As it is difficult to assess site suitability without on-site testing, suitability in the SCAG region would be determined on a per project basis according to all local, regional, and state requirements.³⁴

3.7.2 REGULATORY FRAMEWORK

3.7.2.1 Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124) established the National Earthquake Hazards Reduction Program which is coordinated through the Federal Emergency Management Agency (FEMA), the U.S. Geological Survey (USGS), the National Science Foundation, and the National Institute of Standards and Technology. The purpose of the Program is to establish measures for earthquake hazards reduction and promote the adoption of earthquake hazards reduction measures by federal, state, and local governments; national standards and model code organizations; architects and engineers; building owners; and others with a role in planning and constructing buildings, structures, and lifelines through (1) grants, contracts, cooperative agreements, and technical assistance; (2) development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines; and (3) development and maintenance of a repository of information, including technical data, on seismic risk and hazards reduction. The Program is intended to improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decision sciences.

Disaster Mitigation Act (2000)

The federal Disaster Mitigation Act (DMA; Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local, and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency

³³ Ibid.

³⁴ U.S. Environmental Protection Agency. Website. Available at: http://water.epa.gov/aboutow/owm/upload/2004_07_07_septics_septic_2002_osdm_all.pdf, accessed July 22, 2019.

Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazard Mitigation Grand Program funds available to a state for development of state, local, and Indian Tribal mitigation plans.

Clean Water Act Section 402

Section 402 of the Clean Water Act (33 U.S. Code Section 1251 et seq.) establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program controls water pollution by regulating point sources that discharge pollutants, including rock, sand, dirt, and agricultural, industrial, and municipal waste, into waters of the United States. The Environmental Protection Agency has delegated to the State Water Resources Control Board the authority for the NPDES program in California, which is implemented by the State's nine Regional Water Quality Control Boards. Under the NPDES Phase II Rule, construction activity disturbing 1 or more acres must obtain coverage under the State's General Permit for Discharges of Storm Water Associated with Construction Activity (General Construction Permit). As described further in **Section 3.10, Hydrology and Water Quality**, the Construction General Permit requires that applicants develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies best management practices (BMPs) that reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards and perform inspections and maintenance of all BMPs.

U.S. Geological Survey Landslide Hazard Program

The USGS Landslide Hazard Program provides information on landslide hazards including information on current landslides, landslide reporting, real time monitoring of landslide areas, mapping of landslides through the National Landslide Hazards Map, local landslide information, landslide education, and research.

3.7.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act)

The Alquist-Priolo Act (California Code of Regulations, Section 3603(f)) provides policies and criteria to assist cities, counties, and state agencies in the development of structures for human occupancy across the trace of active faults. The Alquist-Priolo Act was intended to provide the citizens of the state with increased safety and to minimize the loss of life during and immediately following earthquakes by facilitating seismic retrofitting to strengthen buildings, including historical buildings, against ground shaking.

Alquist-Priolo Special Study Zones

The Alquist-Priolo Act requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. This Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Sections 2690–2699.6) addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the Act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Act.

In addition to the Seismic Hazards Mapping Act, the CGS provides guidelines (Guidelines for Evaluating and Mitigating Seismic Hazards in California) for evaluating seismic hazards other than surface fault rupture, and for mitigation measures as required by PRC Section 2695(a). The most current guidelines are provided in Special Publication 117A of 2008.

California Building Code

The California Building Code (CBC) is a compilation of building standards codified in the California Code of Regulations, Title 24, Part 2. The provisions of the CBC apply to the construction, alteration,

movement, replacement, location, and demolition of every building or structure in California. The CBC is published on a triennial basis, and supplements and errata can be issued throughout the cycle. The 2016 edition of the CBC became effective on January 1, 2017, and is based on the 2015 International Building Code (IBC) of the International Code Council, with California amendments. The 2016 CBC incorporates the latest seismic design standards for structural loads and materials, as well as provisions from the National Earthquake Hazards Reduction Program to mitigate losses from an earthquake.

CBC standards are based on the following:

- Building standards that have been adopted by state agencies without change from a national model code such as the IBC;
- Building standards based on a national model code that have been changed to address conditions specific to California; and
- Building standards authorized by the California legislature but not covered by the national model code.

The CBC includes provisions for demolition and construction, as well as regulations regarding building foundations and soil types to protect people and property from hazards associated with falling debris or construction processes. Seismic standards within the CBC are among the strictest in the world due to California's susceptibility to earthquakes and other seismic events.

California Department of Transportation (Caltrans) Regulations

Caltrans' jurisdiction includes rights-of-way (ROWs) of state and interstate routes within California. Any work within the ROW of a federal or state transportation corridor is subject to Caltrans' regulations governing allowable actions and modifications to the ROW. Caltrans issues permits to encroach on land within their jurisdiction to ensure encroachment is compatible with the primary uses of the State Highway System, to ensure safety, and to protect the state's investment in the highway facility. The encroachment permit requirement applies to persons, corporations, cities, counties, utilities, and other government agencies. A permit is required for specific activities including opening or excavating a state highway for any purpose, constructing, or maintaining road approaches or connections, grading within rights-of-way on any state highway, or planting or tampering with vegetation growing along any state highway. The encroachment permit application requirements relating to geology, seismicity and soils include information on road cuts, excavation size, engineering and grading cross-sections, hydraulic calculations, and mineral resources approved under Surface Mining Area Reclamation Act (SMARA).

Caltrans Seismic Design Criteria

Caltrans Seismic Design Criteria was initiated through the recognition that past earthquakes in California have shown the vulnerability of some older structures, designed with non-ductile design standards to earthquake-induced force and deformations. As a result, Caltrans initiated an extensive seismic retrofit program to strengthen the state's inventory of bridges to ensure satisfactory performance during anticipated future earthquakes. Caltrans has funded an extensive research program as well as developed design procedures that have furthered the state of practice of earthquake bridge engineering. The Seismic Design Criteria (SDC) are an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. Bridges with non-standard features or operational requirements above and beyond the ordinary standard bridge may require a greater degree of attention than specified by the SDC.

Southern California Catastrophic Earthquake Preparedness Plan

The Southern California Catastrophic Earthquake Preparedness Plan, based on the California Geological Survey and USGS's ShakeOut Scenario of 2008, was released in 2010 and examines the initial impacts, inventories resources, cares for those wounded and homeless, and develops a long-term recovery process. The process of Long-Term Regional Recovery (LTRR) provides a mechanism for coordinating federal support to state, tribal, regional, and local governments, nongovernmental organizations (NGOs), and the private sector to enable recovery from long-term consequences of extraordinary disasters. The LTRR process accomplishes this by identifying and facilitating the availability and use of recovery funding sources and providing technical assistance (such as impact analysis) for recovery and recovery planning support. "Long term" refers to the need to reestablish a healthy, functioning region that would sustain itself over time. Long-term recovery is not debris removal and restoration of utilities, which are considered immediate or short-term recovery actions. The LTRR's three main focus areas are housing, infrastructure (including transportation), and economic development.

3.7.2.3 Local

County and City General Plans

A safety element is required in county and city general plans for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified in Division 2 of the Public

Resources Code, and other geologic hazards known to the legislative body. The safety element shall include mapping of known seismic and other geologic hazards (Government Code Section 65302 (g)). **Table 3.7-1** and **Figure 3.7-2** above show the potentially active faults in the SCAG region. As part of the safety element, county and city governments typically identify goals, objectives, and implementing actions to minimize the loss of life, property damage, and disruption of goods and services from man-made and natural disasters including floods, fires, non-seismic geologic hazards, and earthquakes. County and City governments may provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances may include those addressing unreinforced masonry construction, erosion, or grading.

3.7.3 ENVIRONMENTAL IMPACTS

3.7.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts related to geology and soils if the Plan would result in any of the following:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - (ii) Strong seismic ground shaking.
 - (iii) Seismic-related ground failure, including liquefaction.
 - (iv) Landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.7.3.2 Methodology

This section evaluates hazards to people or property from geology and soils, identifies mitigation measures for the impacts, and evaluates the residual impacts. The potential for hazards to people and property from geology and soils was evaluated in accordance with Appendix G of the 2019 State California Environmental Quality Act (CEQA) Guidelines. Geology and soils within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, review of general information characterizing geology and soils from the Dibblee Maps and maps of Alquist-Priolo zones and mapping of seismic zones and movement that has occurred along mapped earthquake faults and review of published and unpublished literature germane to the SCAG region.. The methodology for determining the significance of potential risk to people and property in relation hazards posed by geology and soils compares the existing conditions to the future 2045 conditions under the Plan, as required by *CEQA Guidelines* Section 15126.2(a).

To assess potential impacts to residences and businesses adjacent to transportation corridors, geographic information systems (GIS) was used to assess seismic and geologic impacts by overlaying data in GIS format on the location of areas known to pose seismic or geologic hazards in the SCAG region. Specifically, the Major Transportation Projects³⁵ and urban development patterns from the land use strategies included in the Plan were plotted on maps that identify potential hazards, such as known faults, high ground acceleration areas, areas exhibiting landslide potential, and areas with highly erodible soils in the SCAG region. A 500-foot-wide buffer was created along transportation project segments to identify potential seismic and geologic hazards and to determine whether such hazards could impact transportation projects included in the Plan. **Table 3.7-2, Potential Geologic Hazards Impacts from the Plan**, and **Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards**, show the results of this analysis.

³⁵ Major Transportation Projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

**Table 3.7-2
Potential Geologic Hazards Impacts from the Plan**

County	Potential Liquefaction (acres)	Potential Earthquake Induced Landslides (acres)
Imperial	n/a	N/a
Los Angeles	14,343.88	736.34
Orange	4,197.14	152.85
Riverside	46.02	6.16
San Bernardino	0.15	
Ventura	2591.39	106.51
Total SCAG Area	21,179	1,002

Source: SCAG GIS analysis and data, 2019

Note: data for Imperial County is not available

In 2015, the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District (CBIA v. BAAQMD)* (2015) 62 Cal.4th 369), held that CEQA generally does not require a lead agency to consider the impacts of existing environmental conditions on the future residents or users of a project. However, if a project risks exacerbating preexisting environmental hazards or conditions, the lead agency is required to analyze the impact of that exacerbated condition on the environment, which may include future residents and users within the project area. Generally, transportation and land use projects under the Plan would not exacerbate existing environmental hazards related to geological and soil conditions, nonetheless, consistent with past practice, information is presented on geologic hazards at the regional level that may be of use to local jurisdictions or other readers of the Plan or PEIR.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.7.3.3 Impacts and Mitigation Measures

Impact GEO-1 **Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42; (ii) strong seismic ground shaking; (iii) seismic-related ground failure, including liquefaction; (iv) landslides.**

Less than Significant Impact.

Connect SoCal identifies new transit and rail routes, expansion highway routes and other facilities, all of which are subject to seismic events to some degree (See **Table 3.7-1**). Seismic events can damage transportation infrastructure and urban development through surface rupture, ground shaking, liquefaction, and landslides. As illustrated in **Table 3.7-1**, numerous active faults are known to exist in the SCAG region that could potentially generate seismic events capable of significantly affecting existing structures and transportation projects analyzed in the Plan. Also, as described in the existing setting, it is expected there are unknown faults that could also significantly damage transportation infrastructure or the built environment. The plan contains transportation projects that would be located in areas prone to landslide, liquefaction and/or erosion. Indirect impacts could also promote additional delays and breaks in service while repairs are made. The potential for transportation projects and anticipated development projects to be significantly affected by liquefaction would be higher in areas exhibiting shallow groundwater levels and unconsolidated soils such as fill material, some alluvial soils, and coastal sands. As shown in **Table 3.7-2, Potential Geologic Hazards Impacts from the Plan**, approximately 21,000 acres of land are within 500 feet of Plan transportation projects. Potential hazards associated with liquefaction would be addressed through site-specific geotechnical studies required by local jurisdictions in accordance with standard industry practices and state-provided guidance, such as CGS Special Publication 117A, which specifically address liquefaction.

The land use strategies would have the potential to direct more growth into existing urban centers, walkable mixed-use communities, transit-oriented development, and other areas well-served by transit such as high-quality transit areas (HQTAs). Increased density could increase the number of people and structures exposed to potential fault rupture at a given location. For example, if a fault were to rupture adjacent to an urban center more people would be affected than if fault rupture were to occur in a remote area of the region with few people (as was the case with the Ridgecrest earthquake). Strength of a

particular earthquake and proximity to the fault would also be factors in how many people are affected by an earthquake.

Implementation of the Plan would result in projects exposed to both direct and indirect effects of seismic activities compared to existing conditions. However, the Plan would neither cause nor exacerbate existing geologic hazards, including the likelihood of fault rupture. This condition exists throughout the SCAG region as it is a seismically active area.

Transportation projects would be in proximity to known faults, increases in population would also result in people being located near known faults. Potential direct impacts from surface rupture and severe ground shaking could cause catastrophic damage to transportation infrastructure, including overpasses and underground structures. Indirect impacts from seismic events could damage ancillary transportation facilities such as port facilities, traffic control equipment, and train stations. With regard to land use development, seismic activity can cause damage to existing structures designed due to substandard construction. Further, as noted above, earthquakes can occur within previously undetected fault zones. For example, the July 2019 Ridgecrest earthquakes occurred within previously undetected fault zones and caused an excess of \$100 million in damages.³⁶ A catastrophic earthquake on the San Andreas Fault would have the potential to cause 1,800 fatalities, displace 9 million people, and cause more than \$200 billion in damages.³⁷

The Alquist-Priolo Act prohibits the location of structures for human occupancy across active faults. Local jurisdictions require a surface fault rupture hazard investigation for any development project that would be located within an Alquist-Priolo Earthquake Fault Zone. This is to ensure that proposed development would not be located astride an active fault. In addition, the CBC contains numerous regulations designed to address seismic hazards.

New or seismically retrofitted structures designed with current state of the art engineering knowledge and compliance with local or state building codes (California Building Code, Uniform Building Code³⁸) also reduce potential damage to structures and minimize the seismic impacts to the public. For example, the City of Los Angeles has issued mandatory retrofitting notices to owners of soft-story buildings under

³⁶ CBS News, *Recent California Earthquakes a Stark Warning for Los Angeles, July 8, 2019*. Available online at: <https://www.cbsnews.com/news/california-earthquakes-a-stark-warning-for-los-angeles-ridgecrest-trona/>, accessed September 5, 2019.

³⁷ United States Geological Survey. 2008. *The Shake Out Scenario*. Available online at: <http://pubs.usgs.gov/of/2008/1150/of2008-1150.pdf>

³⁸ California Building Standards Commission. 2016. *2016 California Building Standards Code*. Available online at: <https://www.dgs.ca.gov/BSC/Codes>, accessed May 21, 2019.

Ordinance 183893 and 184081. As of October 2019, approximately 82 percent of property owners receiving notices have submitted plans to retrofit or provide proof of a past retrofit.³⁹

As discussed above, implementation of the Plan would not exacerbate existing geologic hazards including fault rupture because the SCAG region is a seismically active area, and this condition exists throughout the region. Furthermore, there are numerous regulations in place to reduce such risks to any planned development or transportation project, and therefore, the potential impacts of the Plan with regard to fault rupture are less than significant. No mitigation measures are necessary.

Impact GEO-2 Result in substantial soil erosion or the loss of topsoil.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects included in the Plan as well as growth under the Plan, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects may result in significant impacts from soil erosion or the loss of topsoil. In addition, urban development patterns encouraged by the land use strategies that direct more growth into existing urban areas, walkable mixed-use communities, and areas well-served by transit such as HQTAs could also result in soil erosion or loss of topsoil constituting a significant impact.

Soil erosion and its subsequent loss are the result of the actions of water and wind. The likelihood of erosion is higher with an increase in slope, the narrowing of runoff channels, and the removal of groundcover such as vegetation. Human activities associated with development such as grading, particularly on slopes, increase the risk for erosion in affected areas. Erosion also increases the risks of dust storms which can degrade air quality.

Several transportation projects included in the Plan would involve major construction of new facilities that may involve rail lines, highway segments, or other urban development patterns that would be within previously undisturbed areas which may result in soil erosion and the loss of topsoil. Some transportation projects and anticipated development projects may also require significant earthwork including cuts into hillsides, which could become unstable over time, increasing long-term erosion potential. Strategies that encourage denser development could also contribute to loss of topsoil through construction of underground parking garages.

³⁹ City of Los Angeles. *Soft Story Retrofit Program*. Available online at: <http://www.ladbs.org/services/core-services/plan-check-permit/plan-check-permit-special-assistance/mandatory-retrofit-programs/soft-story-retrofit-program>, accessed October 23, 2019.

Improvements and modifications to existing rights-of-way, such as HOV lanes, HOT lanes, new busways and capacity enhancement facilities, mixed flow lanes, and ROW maintenance, would have less potential to impact topsoil because these project locations have previously been disturbed. However, road cuts could expose soils to erosion over the life of the project, creating potential landslide and falling rock hazards. Engineered roadways could be undercut over time by storm water drainage and wind erosion. Some areas would be more susceptible to erosion than others due to the naturally occurring soils with high erosion potential.

Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards, shows the location of projects identified in the Plan in relation areas with soils subject to moderate and high potential for soil erosion.

Notwithstanding natural soil types, engineered soils can also erode due to poor construction methods and design features or lack of maintenance. Transportation projects included in the Plan are in areas susceptible to geologic hazards including high soil erodibility. Construction of additional lanes on freeways, other transportation facilities or development could also potentially result in the loss of topsoil, through grading, trenching, excavation, and/or soil removal.

The Plan includes coordinated and integrated regional strategies for transportation investments and land use growth that aim to focus more development in urbanized areas such as HQTAs, livable corridors, neighborhood mobility areas, and walkable, mixed- used communities. This focus on compact development would not be expected to result in an increase in slope instability as much of the anticipated development would be in already developed areas served by transit and other existing infrastructure. However, some of the anticipated development could require earthwork or otherwise result in soil erosion or slope failure, thus creating a significant impact.

Throughout California, the Regional Water Quality Control Boards (RWQCB) set erosion control standards because one of the major effects of grading is sedimentation of receiving waters. These control standards are administered via the NPDES permit process for storm drainage discharge. One of the requirements of this permit is the implementation of nonpoint source control of stormwater runoff through the application of Best Management Practices (BMPs). A Storm Water Pollution Prevention Plan (SWPPP) is required by the RWQCB to describe the BMPs that would control both the quality and amount of stormwater runoff on a project site. Erosion and sedimentation issues are addressed more fully in **Section 3.10, Hydrology and Water Quality**. Transportation projects and development that would occur under the Plan would be required to comply with this process.

Because projects would be required to comply with existing state and local jurisdiction permitting, regulatory, and grading processes as well as the application of BMPs, impacts may be reduced. However,

given the large number of projects in the Plan and wide variety of project conditions including soil types and slopes, this impact is considered significant.

Mitigation Measures

SCAG Mitigation Measure

SMM-GEO-1: SCAG shall facilitate the minimization of substantial soil erosion or loss of topsoil through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts. Such efforts shall include web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts such as training series and sharing of associated online training materials. Resource agencies, such as the U.S. Geology Survey, shall be consulted during this update process.

Project Mitigation Measures

PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that site-specific geotechnical investigations conducted by a qualified geotechnical expert are conducted to ascertain soil types prior to preparation of project designs. These investigations can and should identify areas of potential failure and recommend remedial geotechnical measures to eliminate any problems.
- b) Consistent with the requirements of the State Water Resources Control Board (SWRCB) for projects over one acre in size, obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the SWRCB and prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Regional Water Quality Control Board (RWQCB). At a minimum, the SWPPP should include a description of construction materials, practices, and equipment storage and maintenance; a list of

pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; best management practices (BMPs); and an inspection and monitoring program.

- c) Consistent with the requirements of the SWRCB and local regulatory agencies with oversight of development associated with the Plan, ensure that project designs provide adequate slope drainage and appropriate landscaping to minimize the occurrence of slope instability and erosion. Design features should include measures to reduce erosion caused by storm water. Road cuts should be designed to maximize the potential for revegetation.
- d) Consistent with the CBC and local regulatory agencies with oversight of development associated with the Plan, ensure that, prior to preparing project designs, new and abandoned wells are identified within construction areas to ensure the stability of nearby soils.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to erosion could be significant and unavoidable even with implementation of mitigation.

Impact GEO-3 Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Less than Significant Impact.

Lateral spreading is a phenomenon where large blocks of intact soil move downslope in a rapid fluid-like flow movement. This is usually associated with liquefaction events. The mass moves towards an

unconfined area, such as downslope on slopes as small as one degree. Lateral spreading often occurs along riverbanks, where soft soils are often present, as well as in other areas prone to liquefaction.

Subsidence has historically occurred within the SCAG region due to groundwater overdraft and petroleum extraction. **Table 3.7-2, Potential Geologic Hazards Impacts from the Plan**, shows the acres of land within each County (except Imperial) where transportation projects in the Plan intersect with areas prone to liquefaction and earthquake-induced landslides. **Figure 3.7-8, Connect SoCal Projects in Relation to Geologic Hazards**, shows the location of the Plan transportation projects in relation to these areas. Unconsolidated soils containing petroleum or groundwater often compress when the liquids are removed causing the surface elevation to decrease. Improperly abandoned oil wells or underground hard rock mining can also cause localized subsidence. Areas of historic subsidence within the SCAG region exist in the Santa Clara River Valley and in the historic oil and gas fields of Los Angeles County including the Baldwin Hills, Long Beach, Pomona Chino, Puente Hills, and Antelope Valley areas. Subsidence has also occurred in the Coachella Valley and Murrieta/Temecula areas in Riverside County, Troy Lake, Lucerne Lake, Lucerne Valley, Harper Dry Lake, and Fort Irwin in San Bernardino County, the Santa Ana basin in Orange County, and the Oxnard Plan and Santa Clarita Calleguas Basin in Ventura County. The Port of Long Beach has also experienced subsidence due to the placement of fill along the original coastline.⁴⁰ Subsidence can also occur in areas with unconsolidated soils that have not historically shown elevation changes.

Slope failure results in landslides and mudslides from unstable soils or geologic units. As discussed above, construction of transportation projects and development included in the Plan, may require substantial earthwork and road cuts, increasing the potential for slope failure.

Section 1613 of the CBC states that projects located in liquefaction zones shall incorporate seismic design features into both grading and construction plans. Any on-site grading and site preparation activities must comply with the CBC, described above, which addresses grading and excavations. The requirements laid out therein are considered minimum standards for the design and construction of buildings, particularly for those located on soils that are unstable or that have the potential to be unstable. Additionally, local jurisdictions require that the recommendations contained within the geotechnical report to be implemented by the individual project applicant.

⁴⁰ State of California Department of Water Resources. 2014. *Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California*. Available online at: https://water.ca.gov/LegacyFiles/groundwater/docs/Summary_of_Recent_Historical_Potential_Subsidence_in_California_Final_with_Appendix.pdf, accessed May 21, 2019.

Hazards associated with unstable soils or geologic units are dependent on site-specific conditions, as well as the specific nature of the individual project proposed. However, implementation of transportation projects and development projects anticipated to occur under the Plan would not be expected to exacerbate existing conditions with respect to geologic units and existing soils. With adherence to grading permit and building code requirements, including seismic design criteria as required by the CBC, transportation projects and anticipated development projects would be designed to minimize potential risks related to unstable soils and geologic units. Therefore, the potential for landslide, lateral spreading, subsidence, liquefaction, or other collapse impacts related to the implementation of transportation projects and anticipated development projects under the Plan, is considered less than significant and no mitigation is required.

Impact GEO-4 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Less than Significant Impact.

Development of transportation projects, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects, and compact development strategies, may expose people and structures to risks where located on expansive soils. Soils with high percentages of clay can expand when wet, causing structural damage to surface improvements. These clay soils can occur in localized areas throughout the SCAG region, making it necessary to survey project areas extensively prior to construction. Expansive soils are generally removed during foundation work to avoid structural damage. The Plan assumes 60 percent of the new residential growth and 73 percent of new employment growth would occur within Growth Priority Areas, where expansive soils may have already been removed. However, expansive soils may remain in many parts of the SCAG region.

Transportation projects and anticipated development under the Plan would not be expected to exacerbate existing conditions with respect to expansive soils. Expansive soil conditions would be addressed through the integration of geotechnical information in the design process for development projects to determine whether a site is suitable for a project. Industry practice and state-provided guidance would minimize risk associated with geologic hazards. Compliance with CBC requirements as well as adherence to local building codes and ordinances would reduce hazards relating to expansive soils, and as such, impacts remain less than significant.

Impact GEO-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Less than Significant Impact.

The Plan includes transportation investments and the regional land use strategies that are intended to produce more dense development in well-served transit areas. These land use strategies encourage compact development in HQTAs, and more walkable, mixed-use communities to accommodate the anticipated growth of 3.2 million people by 2045. The Plan does not encourage or anticipate residential development in areas where sewers are not available for the disposal of wastewater or where densities would not support the provision of sanitary sewers. The Plan's transportation projects would not require septic tanks or alternative wastewater disposal systems. Moreover, the Growth Priority Areas are well served by sanitary sewer systems. To the extent septic tanks and alternative wastewater disposal systems may be required in more rural areas, septic tanks and alternative wastewater disposal systems are heavily regulated at the state, regional, and local level. Local jurisdictions also have general plans that contain policies and implementation measures, including BMPs relevant to the use of septic tanks or alternative water disposal system. County environmental health departments regulate septic tanks through measures such as requiring a Sewage Disposal Permit for construction, reconstruction, repair, or abandonment of septic tanks. Therefore, impacts from having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater would be less than significant, and no mitigation measures are required.

Impact GEO-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Significant and Unavoidable Impacts - Mitigation Required.

As discussed in the environmental setting section of this chapter, geologic units considered sensitive for paleontological resources are widespread in the Plan area. These units, such as the shallow marine deposits, such as the San Pedro Sands and the Palos Verdes Sand may yield marine and terrestrial fossils. These units are common along coastal southern California, including Ventura, Los Angeles, and Orange Counties in the SCAG region. Many abundant fossil localities have been collected from excavations in San Pedro around the Port of Los Angeles, where the setting is very similar to that of the program area, with artificial fill covering old marine deposits. These deposits have yielded thousands of specimens of marine invertebrates that are significant for reconstructing changes in shallow marine ecosystems.

Potential impacts to paleontological resources would be more likely to occur from ground-disturbing activities associated with transportation projects and development projects anticipated to occur under the Plan rather than during ongoing operations. Direct permanent impacts to paleontological resources as a result of the Plan may result from ground disturbance associated with construction. Ground-disturbing activities such as excavation for building foundations and bridges, trenching for utility lines, tunneling, and grading, could damage or destroy sensitive paleontological resources on or near the surface or at depth. Construction in previously undisturbed areas and deep excavation activities would have the greatest probability to impact intact buried paleontological resources. The potential for direct impacts to paleontological resources may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. However, any construction in geologic units sensitive for paleontological resources could result in potentially significant damage to or destruction of unique paleontological resources.

Direct permanent impacts may arise if paleontological resources cannot be completely avoided by project design. Substantial damage to or destruction of significant paleontological resources would represent a significant impact. Excavation of the sediments and any significant fossils could destroy or degrade the condition of the fossils; additionally, the nature of project excavation would cause any fossils to be removed from their stratigraphic context, thereby reducing the scientific usefulness of the fossil. The extensive distribution and presence of rock units below the ground surface that may contain significant fossilized remains makes it difficult to predict the location of paleontological resources during the project planning phase, and thus increases the likelihood of inadvertent discovery of significant paleontological resources during construction and ground-disturbing activities.

Therefore, the potential direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan, could result in substantial alteration or removal of a significant paleontological resource from construction activities, and is considered significant.

Mitigation Measures

SCAG Mitigation Measure

SMM-GEO-3: Impacts to paleontological resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts such as training series and sharing of associated

online training materials. SCAG shall consult with resource agencies such as the National Park Service, United States Forest Service, and Bureau of Land Management to identify opportunities for early and effective consultation to identify unique paleontological resources and unique geological features to avoid such resources wherever practicable and feasible and reduce or mitigation for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources. Such measures may include the following or other comparable measures identified by the Lead Agency:

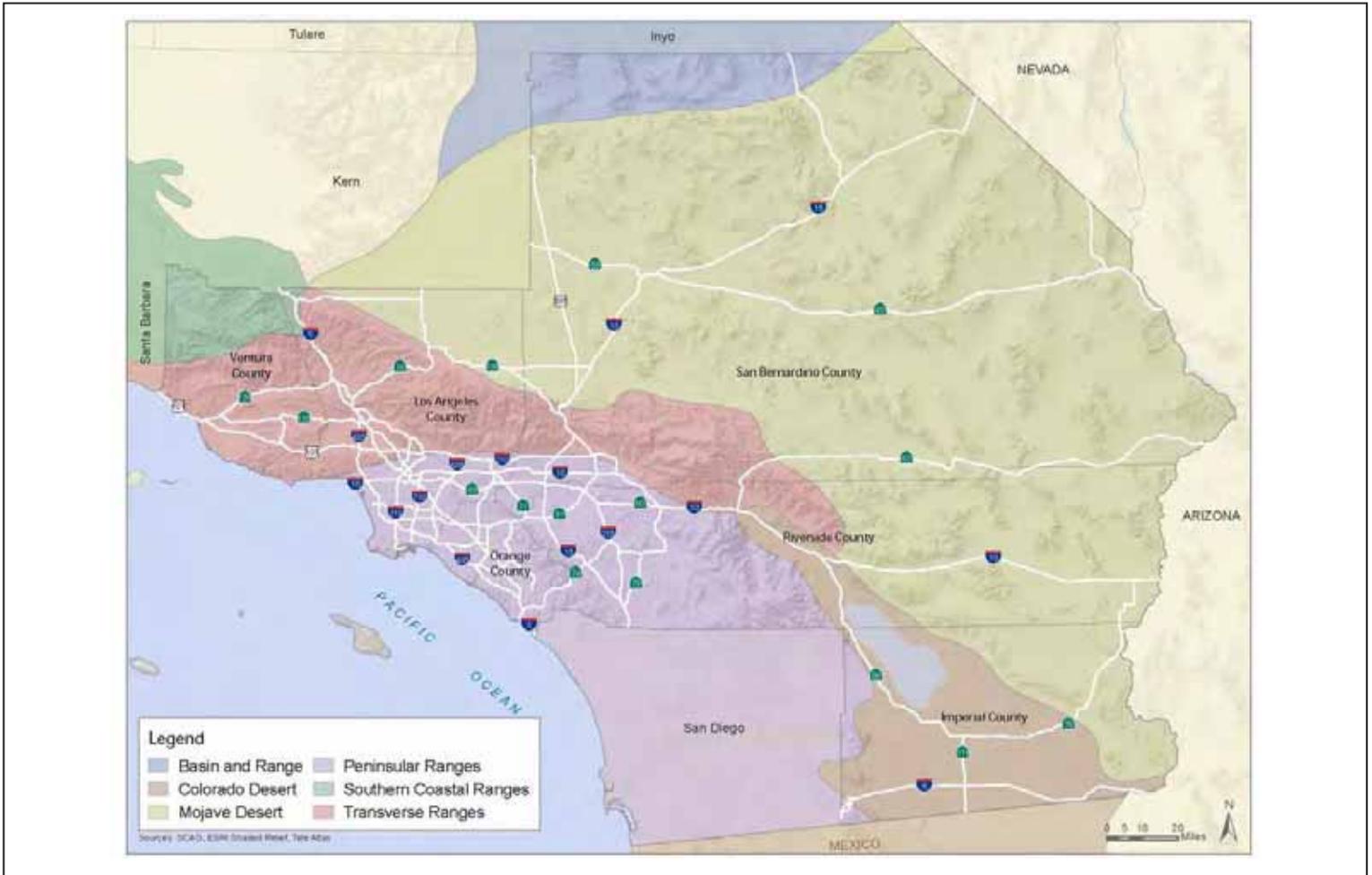
- a) Ensure compliance with the Paleontological Resources Preservation Act, the Federal Land Policy and Management Act, the Antiquities Act, Section 5097.5 of the Public Resources Code (PRC), adopted county and city general plans, and other federal, state and local regulations, as applicable and feasible, by adhering to and incorporating the performance standards and practices from the 2010 Society for Vertebrate Paleontology (SVP) standard procedures for the assessment and mitigation of adverse impacts to paleontological resources.
- b) Obtain review by a qualified paleontologist (e.g. who meets the SVP standards for a Principal Investigator or Project Paleontologist or the Bureau of Land Management (BLM) standards for a Principal Investigator), to determine if the project has the potential to require ground disturbance of parent material with potential to contain unique paleontological or resources, or to require the substantial alteration of a unique geologic feature. The assessment should include museum records searches, a review of geologic mapping and the scientific literature, geotechnical studies (if available), and potentially a pedestrian survey, if units with paleontological potential are present at the surface.
- c) Avoid exposure or displacement of parent material with potential to yield unique paleontological resources.
- d) Where avoidance of parent material with the potential to yield unique paleontological resources is not feasible:

- 1) All on-site construction personnel receive Worker Education and Awareness Program (WEAP) training prior to the commencement of excavation work to understand the regulatory framework that provides for protection of paleontological resources and become familiar with diagnostic characteristics of the materials with the potential to be encountered.
- 2) A qualified paleontologist prepares a Paleontological Resource Management Plan (PRMP) to guide the salvage, documentation and repository of unique paleontological resources encountered during construction. The PRMP should adhere to and incorporate the performance standards and practices from the 2010 SVP Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources. If unique paleontological resources are encountered during construction, use a qualified paleontologist to oversee the implementation of the PRMP.
- 3) Monitor ground disturbing activities in parent material, with a moderate to high potential to yield unique paleontological resources using a qualified paleontological monitor meeting the standards of the SVP or the BLM to determine if unique paleontological resources are encountered during such activities, consistent with the specified or comparable protocols.
- 4) Identify where ground disturbance is proposed in a geologic unit having the potential for containing fossils and specify the need for a paleontological monitor to be present during ground disturbance in these areas.
- e) Avoid routes and project designs that would permanently alter unique geological features.
- f) Salvage and document adversely affected resources sufficient to support ongoing scientific research and education.
- g) Significant recovered fossils should be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility.
- h) Following the conclusion of the paleontological monitoring, the qualified paleontologist should prepare a report stating that the paleontological monitoring requirement has been fulfilled and summarize the results of any paleontological

finds. The report should be submitted to the lead CEQA and the repository curating the collected artifacts, and should document the methods and results of all work completed under the PRMP, including treatment of paleontological materials, results of specimen processing, analysis, and research, and final curation arrangements.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to paleontological resources could be significant and unavoidable even with implementation of mitigation.



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2019

FIGURE 3.7-1

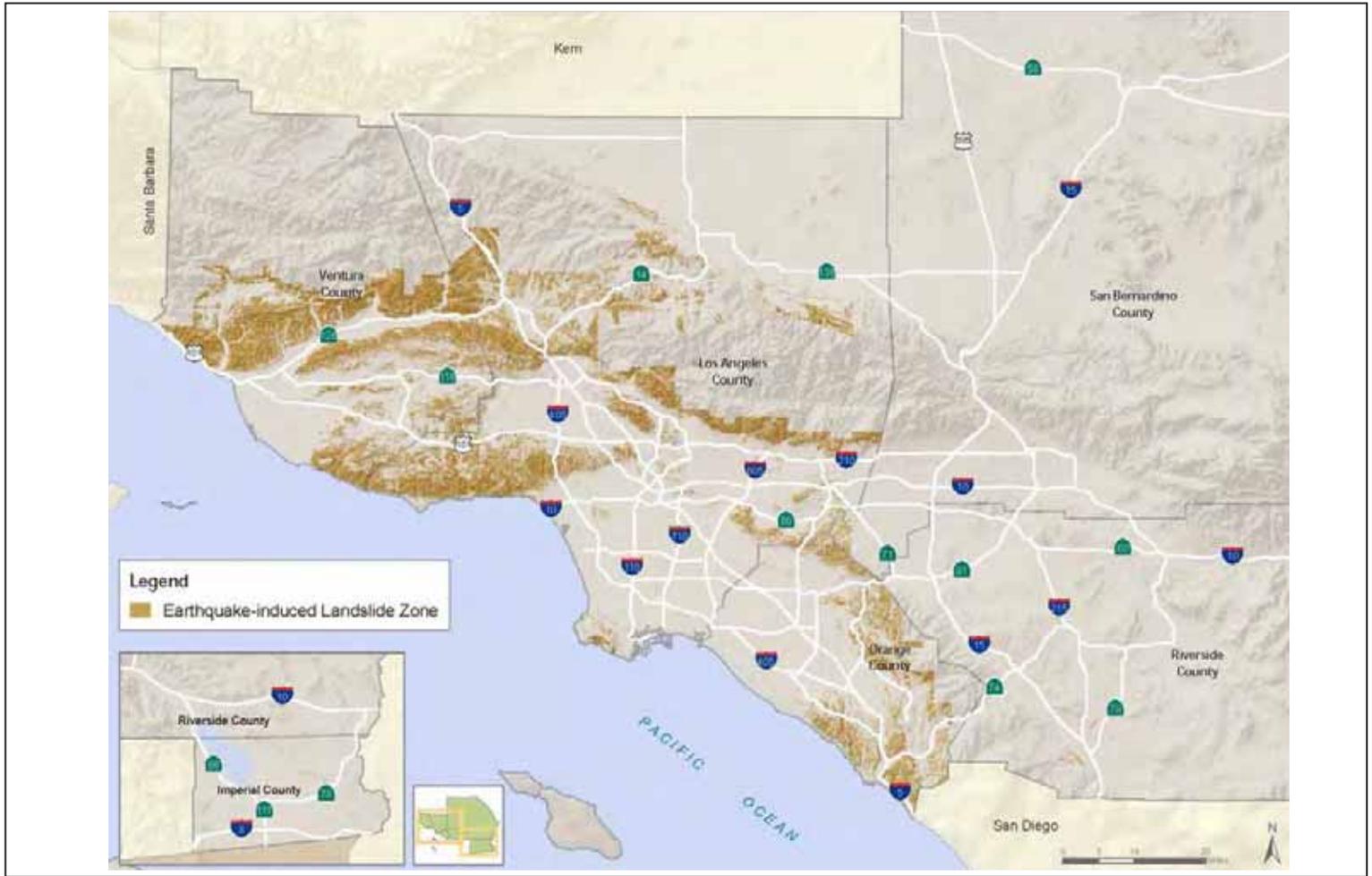
Geomorphic Provinces



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE 3.7-3

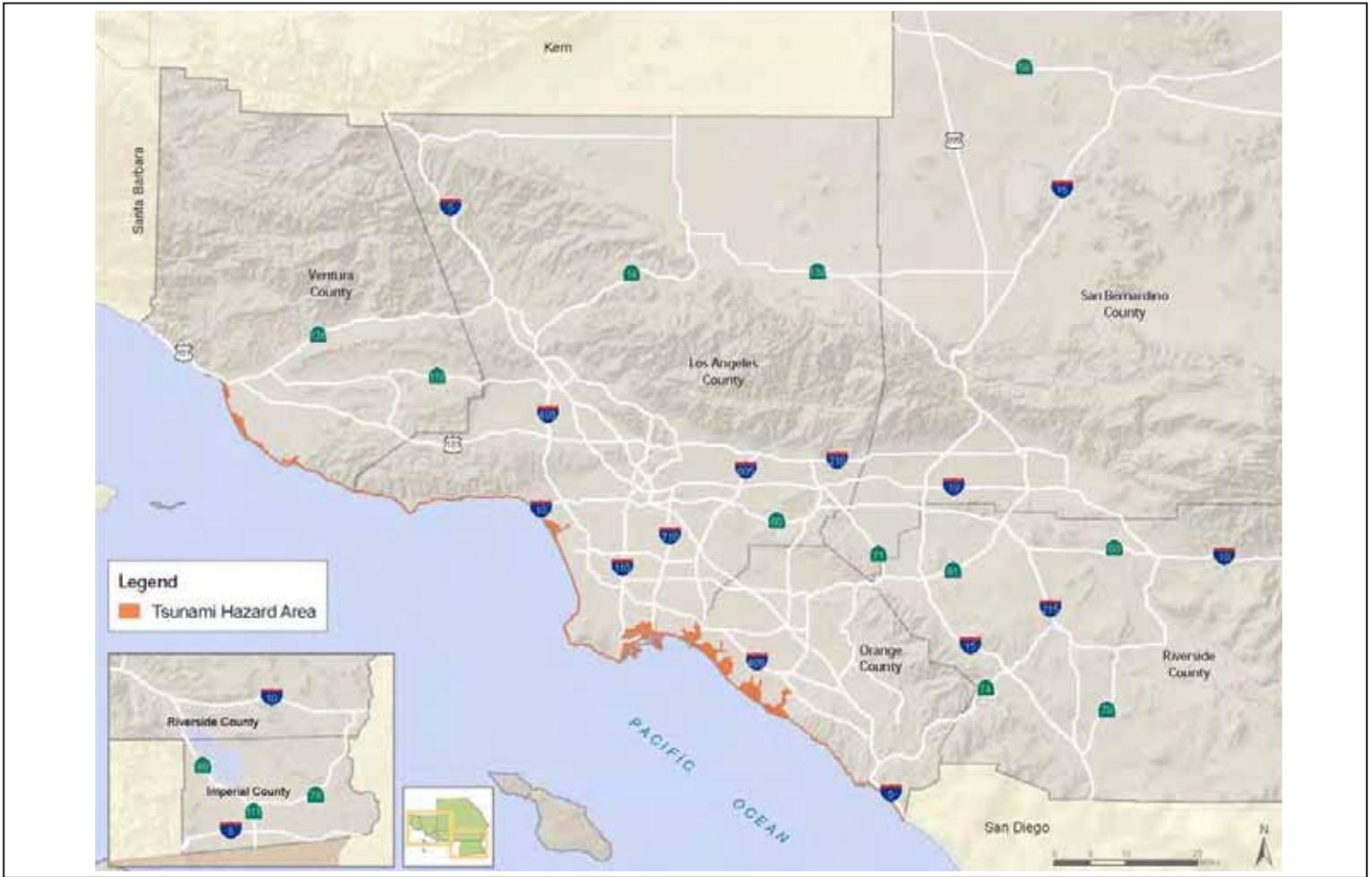
Areas of Potential Liquefaction



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE 3.7-4

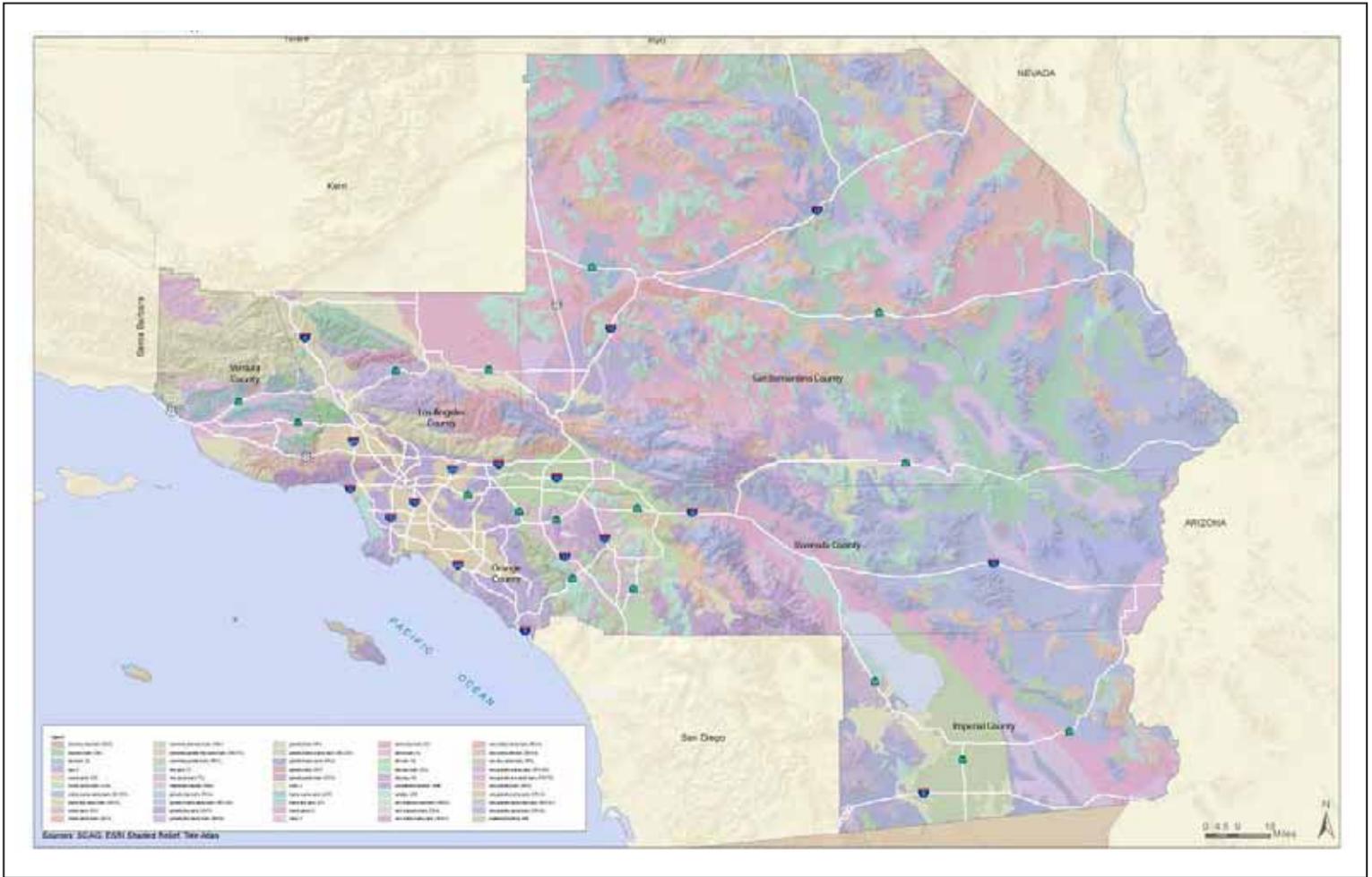
Areas of Potential Landslides



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, CalEMA, 2015

FIGURE 3.7-5

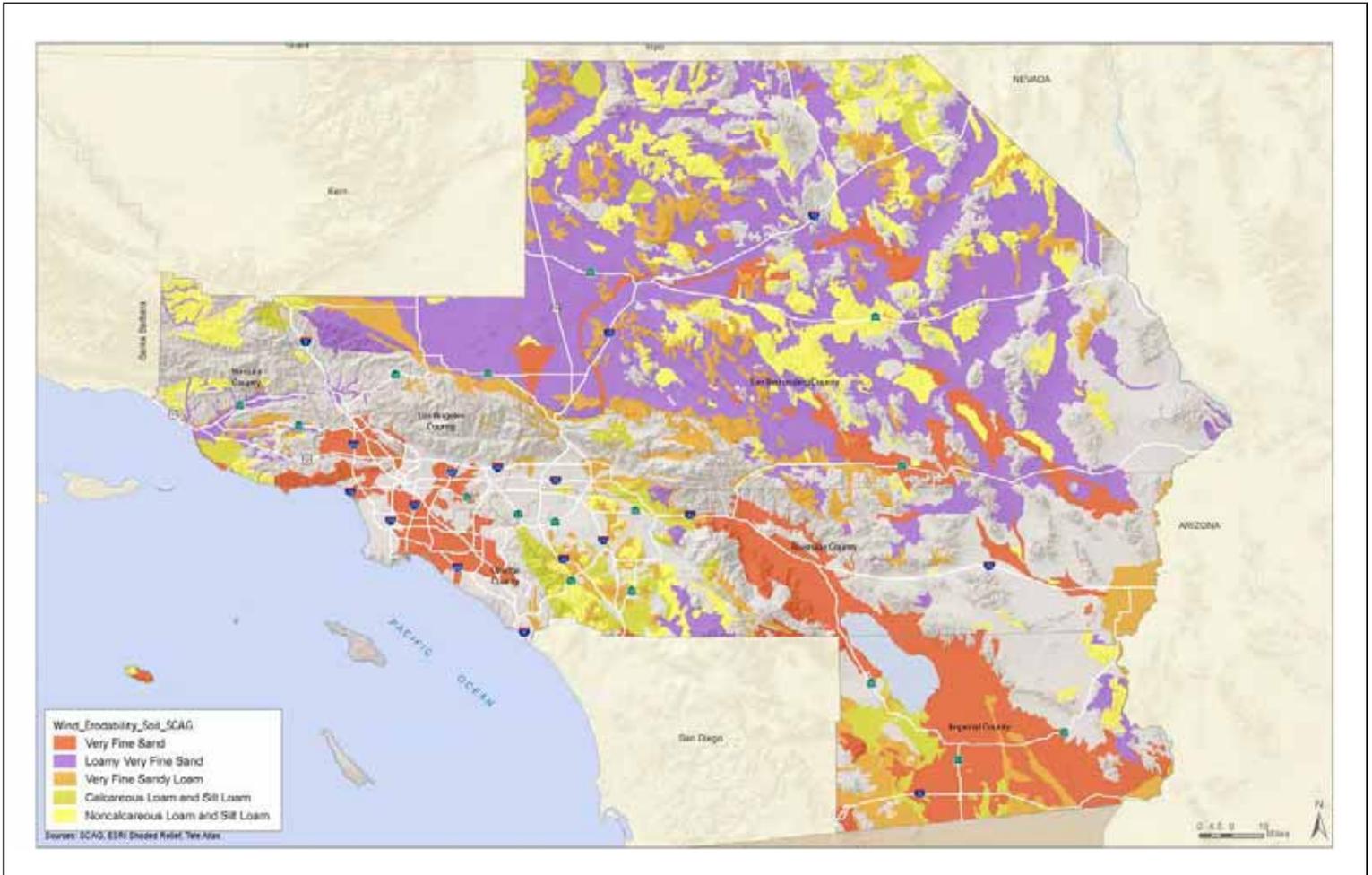
Areas Susceptible to Tsunamis



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE 3.7-6

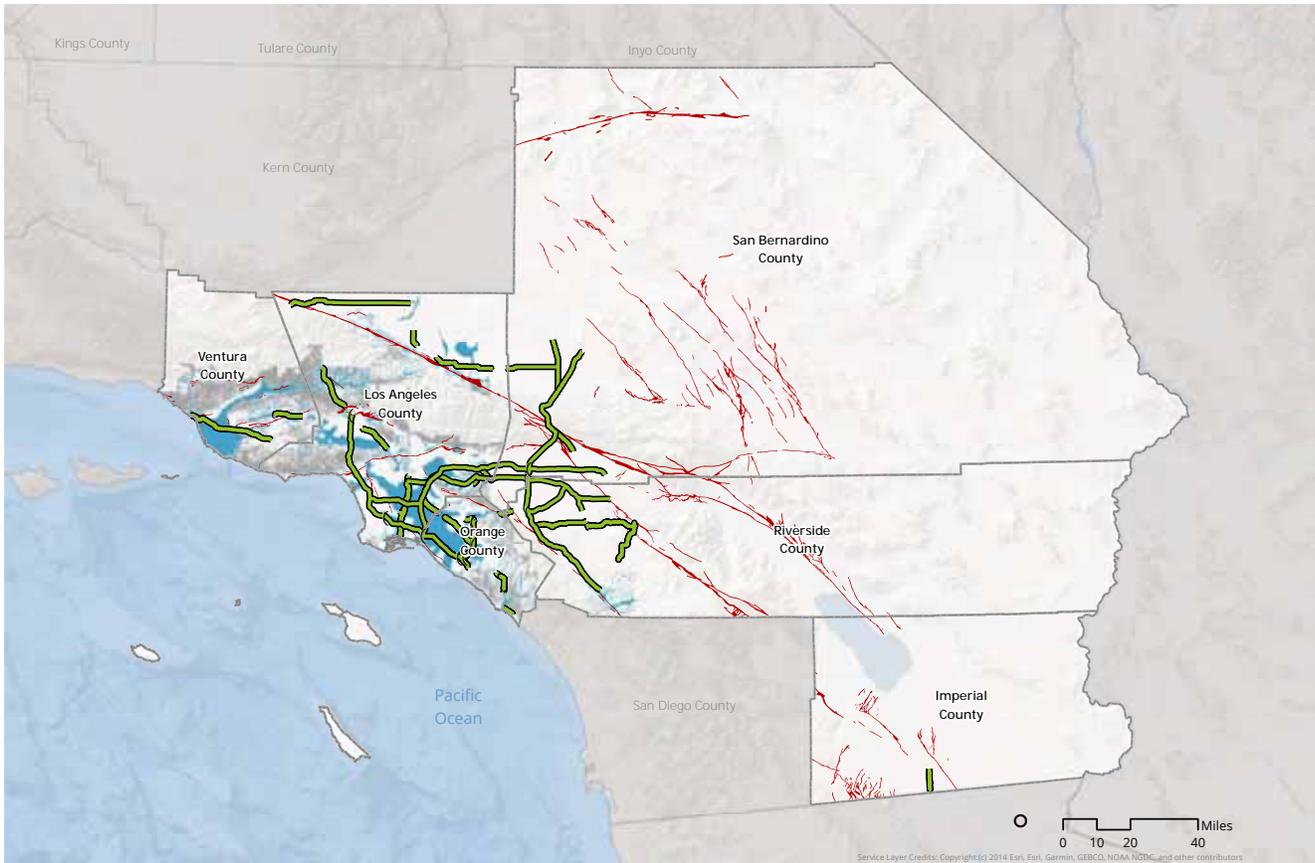
General Soil Types



SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2015

FIGURE 3.7-7

Soils with Moderate to High Erosion Potential



- (Major Highway Projects ■ AlquistPriolo Fault Zones ■ Liquefaction Zones
- Major Highway Projects ■ Landslide Zones

SOURCE: USGS, 2000, 2016 and 2018; SCAG, 2019

FIGURE 3.7-8

Connect SoCal Projects in Relation to Geologic Hazards



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3.7.4 SOURCES

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3.8 GREENHOUSE GASES

This section of the Program Environmental Impact Report (PEIR) describes greenhouse gas emissions in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern greenhouse gas emissions, and evaluates the significance of the potential impacts related to greenhouse gas emissions that could result from development of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.8.1 ENVIRONMENTAL SETTING

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth’s temperature. Global warming is the observed increase in average temperature of the Earth’s surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (NO₂), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the “greenhouse effect.” Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.¹

3.8.1.1 Definitions

Terms and criteria used in the assessment of GHGs are described below.

Greenhouse Gases (GHGs): GHGs are those compounds in the earth’s atmosphere that play a critical role in determining the earth’s surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth’s atmosphere but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth’s atmosphere are thought to be linked

¹ South Coast Air Quality Management District. 2017. *Final Environmental Impact Report 2016 Air Quality Management Plan*. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf?sfvrsn=10>, accessed March 25, 2019.

to global climate change, such as rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather.

Climate Change: Climate change is the variation of earth's climate over time, whether due to natural variability or as a result of human activities. Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, (i.e., GHGs), to the atmosphere.

Global Warming Potential (GWP): Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.

MTCO_{2e}: Metric ton of CO_{2e}.

MMTCO_{2e}: Million metric tons of CO_{2e}.

Carbon Dioxide (CO₂): Enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Carbon Dioxide-Equivalent (CO_{2e}): The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO_{2e} is based on the GWP ratios between the various GHGs relative to CO₂.

Methane (CH₄): Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

Nitrous oxide (NO₂): Emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Chlorofluorocarbons (CFCs): One of a class of fluorinated gases with a high GWP, CFCs are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone.

Fluorinated Gases: Synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but they are potent GHGs, sometimes referred to as high GWP gases.

Hydrofluorocarbons (HFCs): One of a class of fluorinated gases with a high GWP, HFCs contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

Hydrochlorofluorocarbons (HCFCs): One of a class of fluorinated gases with a high GWP, HCFCs contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are GHGs.

Sulfur Hexafluoride (SF₆): One of a class of fluorinated gases with a high GWP, SF₆ is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF₆ is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

Perfluorocarbons (PFCs): One of a class of fluorinated gases with a high GWP, PFCs, are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF₄] and perfluoroethane [C₂F₆]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

Global Warming Potential of Various GHGs: GHGs include CO₂, CH₄, O₃, water vapor, NO₂, HFCs, PFCs, and SF₆. Carbon dioxide is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential than CO₂. (Table 3.8-1, Greenhouse Gases and Their Relative Warming Potential Compared to CO₂).

Table 3.8-1
Greenhouse Gases and Their Relative Global Warming Potential Compared to CO₂

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO ₂ ^a
Carbon Dioxide (CO ₂)	50 to 100	1
Methane (CH ₄) ^b	12 (±3)	25
Nitrous Oxide	120	298
Hydrofluorocarbons:		
HFC-23	264	14,800
HFC-32	5.6	675
HFC-125	32.6	3,500
HFC-134a	14.6	1,100
HFC-143a	48.3	1,430
HFC-152a	1.5	124
HFC-227ea	36.5	3,220
HFC-236fa	209	9,810
HFC-43-10mee	17.1	1,640
Perfluoromethane: CF ₄	50,000	7,390
Perfluoroethane: C ₂ F ₆	10,000	12,200
Perfluorobutane: C ₄ F ₁₀	2,600	8,860
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	9,300
Sulfur Hexafluoride (SF ₆)	3,200	22,800

Note:

Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO₂.

The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Source:

Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4). 4 April 2014. Emission factors for greenhouse gas inventories. Available at: <http://www.epa.gov/climateleadership/documents/emission-factors.pdf>

Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

Understanding of the fundamental processes responsible for global climate change has improved over the past decade, and the predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in estimating current and future emissions and the appropriate assumptions, predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, rate of sea ice melting, and changes in oceanic circulation. Due to the complexity of the earth's climate system, the

uncertainty in its description and in the prediction of changes may never be completely eliminated. Because of these uncertainties, there continues to be significant debate over the extent to which increased concentrations of GHGs have caused or will cause climate change and over the appropriate actions to limit and/or respond to climate change.

3.8.1.2 Existing Conditions

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer).² GHGs are any gas that absorbs infrared radiation in the atmosphere³ and are the result of both natural and human-influenced activities. Forest fires; decomposition; industrial processes; landfills; and consumption of fossil fuels for power generation, transportation, heating, and cooling are the primary sources of GHG emissions. Without human intervention, the earth maintains an approximate balance between the emission of GHGs into the atmosphere and the storage of GHGs in oceans and terrestrial ecosystems. Increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years. In 1850, the world emitted approximately 4.75 billion tons of CO₂ and in 2017, the world emitted approximately 1.54 trillion tons of CO₂.⁴

The primary effect of rising global concentrations of atmospheric GHG levels has been a rise in the average global land and ocean temperature of approximately one degree Celsius above pre-industrial levels. Warming greater than the global annual average is being experienced in many land regions, including two to three times higher in the Arctic. Estimated global warming is currently increasing at 0.2 degrees Celsius per decade due to past and ongoing emissions. The International Panel on Climate Change (IPCC) has determined that pathways limiting global warming to 1.5 degrees Celsius require emissions to decline by about 45 percent from 2010 levels by 2030, reaching net zero by 2050. Warming forecasts and related emission pathways presented by the IPCC do not account for self-reinforcing climate feedback loops. These feedback loops include, but are not limited to: loss of sea ice, which reflects heat back into the atmosphere rather than the ocean, causing further melting; the melting of permafrost, which would release new methane emissions into the atmosphere; and the cooling effects of sulfate

² US Environmental Protection Agency, "Glossary of Climate Change Terms." Available online at: <https://19january2017snapshot.epa.gov/climatechange/glossary-climate-change-terms.html>, accessed September 3, 2019.

³ Ibid.

⁴ Our World in Data. *Cumulative CO₂ emissions by world region*. Available online at: <https://ourworldindata.org/grapher/cumulative-co2-emissions-region?stackMode=absolute>, accessed October 3, 2019.

pollution in the atmosphere, the loss of which would lead to additional warming.⁵ Adverse impacts from global climate change worldwide and in California may include, but not be limited to:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.⁶
- Since the early 1970s, glacier mass loss and ocean thermal expansion from warming together explain about 75% of the observed global mean sea level rise. Over the period 1993 to 2010, global mean sea level rise is consistent with the sum of the observed contributions from ocean thermal expansion due to warming from changes in glaciers, Greenland ice sheet, Antarctic ice sheet, and land water storage.⁷ Sea level in California has risen approximately 7 inches from 1900 to 2005, according to the National Climate Assessment.⁸
- Changing weather patterns, including changes to precipitation, ocean acidification and warming, and wind patterns.⁹
- Declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years.¹⁰
- Increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century.¹¹
- Migrating of species to suitable habitats.
- Reducing of crop yields in the agricultural sector.
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.¹²

⁵ Intergovernmental Panel on Climate Change. 2018. *Summary for Policymakers, Global Warming of 1.5 C*. Available online at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf, accessed October 1, 2019.

⁶ Environmental Protection Agency, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) ("cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere"); see also 74 Fed. Reg. 66496, 66538 (same in Final Endangerment Finding).

⁷ Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

⁸ California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available online at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf, accessed March 25, 2019.

⁹ Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

¹⁰ California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*.

¹¹ Ibid.

- Decreasing cold temperature extremes, increasing warm temperature extremes, increasing extreme high sea levels, and increasing number of heavy precipitation events in a number of regions.¹³
- Increasing frequency and severity of climate-related extremes including heat waves, droughts, floods, cyclones, and wildfires.¹⁴

The impacts of climate change have been documented by the Office of Environmental Health Hazard Assessment (OEHHA), which includes the following changes that are already occurring:^{15,16}

- A recorded increase in annual average temperatures as well as increases in daily minimum and maximum temperatures.
- An increase in the occurrence of extreme events, including wildfire and heat waves.
- A reduction in spring runoff volumes, as a result of declining snowpack.
- A decrease in winter chill hours, necessary for the production of high-value fruit and nut crops.
- Changes in the timing and location of species sightings, including migration upslope of flora and fauna, and earlier appearance of Central Valley butterflies.

A recent aerial survey by the U.S. Forest Service determined that 18 million trees died in California in 2018, which brings the total of dead trees across California from 2010 to 147 million trees over 9.7 million acres. Since 2016, federal, state, and local bodies have removed approximately 1.5 million dead trees that posed the highest hazards to life and property, however, the amount of dead trees across the state presents an increasing wildfire risk.¹⁷ The U.S. Forest Service National Insect and Disease Forest Assessment, found that due to projected climate changes from 2013-2027, the number of acres at risk of losing forest and woodlands will increase and the number of tree deaths will likely increase from already

12 Ibid.

13 Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014 Synthesis Report Summary for Policymakers*. Available online at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf, accessed March 25, 2019.

14 Ibid.

15 OEHHA. 2018 *Indicators of Climate Change in California*. August. Available online at: <https://oehha.ca.gov/climate-change/document/indicators-climate-change-california>, accessed March 25, 2019.

16 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

17 U.S. Department of Agriculture. 2019. *News Release, Survey Finds 18 Million Trees Died in California in 2018*. February. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/FSEPRD609321.pdf, accessed October 2, 2019.

highly destructive pests, such as the mountain pine beetle.¹⁸ This would further exacerbate the fire hazard posed from dead trees.

In the last decade, California has experienced five of the state's 10 largest wildfires and seven of its 10 most destructive fires in its history. Over the past five decades, summertime forest fires have increased in size by roughly 800 percent. Though no single wildfire can be attributed solely to climate change, evidence shows that the increase in average temperatures statewide is creating conditions more prone to wildfires.¹⁹ Southern California has warmed about three degrees Fahrenheit in the last century, and every additional increment of warming speeds up evaporation, dries out soil and vegetation, and increases the amount of fuel available for a wildfire.²⁰ In 2018, wildfires in California released approximately 68 million tons of carbon dioxide, or about 15 percent of the State's annual emissions.²¹ Studies suggest that greenhouse gas emissions from wildfires create a positive feedback loop, wherein the emissions warm the planet further, leading to more wildfires and more emissions.

The warming climate also causes sea level rise by warming the oceans which causes water to expand, and by melting land ice which transfers water to the ocean. Sea level rise is expected to magnify the adverse impact of any storm surge and high waves on the California coast. As temperatures warm and GHG concentrations increase, more carbon dioxide dissolves in the ocean, making it more acidic. More acidic ocean water affects a wide variety of marine species, including species that people rely on for food.²²

While more intense dry periods are anticipated under warmer conditions, increased extreme wet conditions are also expected to increase due to more frequent warm, wet atmospheric river events and a higher proportion of precipitation falling as rain instead of snow. In recent years, atmospheric rivers have also been recognized as the cause of the large majority of major floods in rivers all along the U.S. West

¹⁸ U.S. Forest Service. 2014. *2013-2027 National Insect and Disease Forest Risk Assessment*. January. Available online at: https://www.fs.fed.us/foresthhealth/technology/pdfs/2012_RiskMap_Exec_summary.pdf, accessed October 3, 2019.

¹⁹ Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. *Earth's Future*, 7, 892–910. Available online at: <https://doi.org/10.1029/2019EF001210>, accessed September 16, 2019.

²⁰ US Environmental Protection Agency, *What Climate Change Means for California*. Available online at: <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ca.pdf>, accessed September 16, 2019.

²¹ US Department of Interior, *Press Release, November 30, 2018*. Available online at: <https://www.doi.gov/pressreleases/new-analysis-shows-2018-california-wildfires-emitted-much-carbon-dioxide-entire-years>, accessed September 17, 2019.

²² California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

Coast and as the source of up to 50 percent of all precipitation in California.²³ These extreme precipitation events, together with the rising snowline, often cause devastating floods in major river basins (e.g., California's Russian River). Looking ahead, the frequency and severity of atmospheric rivers on the U.S. West Coast will increase due to higher atmospheric water vapor that occurs with rising temperature, leading to more frequent flooding.^{24,25}

As GHG emissions continue to accumulate and climate disruption grows, such destructive events will become more frequent. Several recent studies project increased precipitation within hurricanes over ocean regions.^{26,27} The primary physical mechanism for this increase is higher water vapor in the warmer atmosphere, which enhances moisture convergence in a storm for a given circulation strength. Hurricanes are responsible for many of the most extreme precipitation events; such events are likely to become more extreme. Anthropogenic warming by the end of the 21st century will likely cause tropical cyclones globally to become more intense on average. This change implies an even larger increase in the destructive potential per storm, assuming no changes in storm size.^{28,29} Thus, the historical record, which once set our expectations for the traditional range of weather and other natural events, is an increasingly unreliable predictor of the conditions we will face in the future. Consequently, the best available science must drive effective climate policy.³⁰

California is committed to further supporting new research on ways to mitigate climate change and how to understand its ongoing and projected impacts. California's Fourth Climate Change Assessment and Indicators of Change Report will further update our understanding of the many impacts from climate

²³ Scripps Institution of Oceanography. 2017. *California's Climate Future Suggests More Volatility and a Key Role for Atmospheric Rivers*. September. Available online at: <https://scripps.ucsd.edu/news/californias-climate-future-suggests-more-volatility-and-key-role-atmospheric-rivers>, accessed October 1, 2019.

²⁴ Hagos, S., Leung, L.R., Yoon, J.H., Lu, J., and Gao, Y., 2016. *A Projection of Changes in Landfalling Atmospheric River Frequency and Extreme Precipitation over Western North America from the Large Ensemble CESM Simulations*. January.

²⁵ Payne, Ashley and Magnusdottir, Gudrun. 2015. *An Evaluation of Atmospheric Rivers over the North Pacific in CMIP5 and their response to warming under RCP 8.5*. November.

²⁶ Easterling, D.R., Kunkel, K.E., Wehner, M.F., and Sun, L. 2016. *Detection and Attribution of Climate Extremes in the Observed Record*. March.

²⁷ National Academies of Sciences, Engineering, and Medicine. 2016. *Attribution of Extreme Weather Events in the Context of Climate Change*.

²⁸ Sobel, A.H., Camargo, S.J., Hall, T.M., Lee, C-Y., Tippett, M.K., and Wing, A.A., 2016. *Human Influence on Tropical Cyclone Intensity*.

²⁹ Kossin, James P., NOAA/National Centers for Environmental Information. 2016. *Past and Projected Changes in Western North Pacific Tropical Cyclone Exposure*. July.

³⁰ California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

change in a way that directly informs State agencies' efforts to safeguard the State's people, economy, and environment.^{31,32}

The State is also taking steps to make the State more resilient to ongoing and projected climate impacts as laid out by the Safeguarding California Plan.³³ The Safeguarding California Plan was updated in 2018 to present new policy recommendations and provide a roadmap of all the actions and next steps that state government is taking to adapt to the ongoing and inevitable effects of climate change. California's continuing efforts are vital steps toward minimizing the impact of GHG emissions and a three-pronged approach of reducing emissions, preparing for impacts, and conducting cutting-edge research can serve as a model for action.³⁴

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade, and predictive capabilities are advancing. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change; occurrence of extreme weather events; and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific emissions and contributions is possible.

Sources of GHG Emissions

Global

Worldwide anthropogenic GHG emissions for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I) are tracked through the year 2014. The sum of the top five GHG producing nations (plus the European Union) totaled approximately 29,600 million metric tons of CO₂ equivalents (MMTCO_{2e}).^{35,36} It should be noted that global emissions inventory data are not all

³¹ California Natural Resources Agency. *California's Fourth Climate Change Assessment*. Available online at: <http://resources.ca.gov/climate/safeguarding/research/>, accessed March 25, 2019.

³² OEHHA. 2018 *Indicators of Climate Change in California*. August. Available online at: <https://oehha.ca.gov/climate-change/document/indicators-climate-change-california>, accessed March 25, 2019.

³³ California Natural Resources Agency. 2018. *Safeguarding California and Climate Change Adaption Policy*. Available online at: <http://resources.ca.gov/climate/safeguarding/>, accessed March 25, 2019.

³⁴ California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

³⁵ World Resources Institute. *Climate Analysis Indicators Tool (CAIT)*. Available online at: <https://www.climatewatchdata.org/ghg-emissions?breakBy=location&source=31&version=1>, accessed March 25, 2019.

from the same year and may vary depending on the source of the emissions inventory data.³⁷ The top five countries and the European Union accounted for approximately 55 percent of the total global GHG emissions according to the most recently available data (see **Table 3.8-2, Top Five GHG Producer Countries and the European Union [Annual]**). The GHG emissions in more recent years may differ from the inventories presented in **Table 3.8-2**; however, the data is representative of currently available global inventory data.

**Table 3.8-2
Top Five GHG Producer Countries and the European Union (Annual)**

Emitting Countries	2014 GHG Emissions (MMTCO ₂ e)
China	12,000
United States	6,300
European Union (EU), 27 Member States	3,600
India	3,200
Indonesia	2,500
Russia	2,000

Source: World Resources Institute. 2018. "Climate Analysis Indicators Tool (CAIT)," <https://www.climatewatchdata.org/ghg-emissions?breakBy=location&source=31&version=1>.

National

As noted in **Table 3.8-2**, the US was the number two producer of global GHG emissions in 2014. The primary GHG emitted by human activities in the US was CO₂, representing approximately 82 percent of total GHG emissions. Carbon dioxide from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 76 percent of US GHG emissions. In 2016, carbon dioxide emissions from

³⁶ The CO₂ equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent (MMTCO₂E)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that MMTCO₂E = (million metric tons of a GHG) × (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO₂.

³⁷ The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the United Nations Framework Convention on Climate Change (UNFCCC) data for the most recent year were used. United Nations Framework Convention on Climate Change. *Annex I Parties – GHG total without LULUCF*. and *Flexible GHG Data Queries* with selections for total GHG emissions excluding LULUCF/LUCF, all years, and Annex I and non-Annex I countries. Available online at: <https://unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc>. n.d., accessed March 25, 2019.

the transportation sector accounted for approximately 64% of all GHG emissions from fossil fuel combustion.³⁸

State of California

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2017 GHG inventory data (i.e., the latest year for which data are available), California emitted 424.1 MMTCO_{2e} including emissions resulting from imported electrical power in 2017.³⁹ Based on the GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the U.S. (Texas is the highest emitter of GHG).⁴⁰

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities.⁴¹ **Table 3.8-3, GHG Emissions in California (2000 and 2017)**, provides a summary of GHG emissions reported in California in 2000 and 2017 by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

**Table 3.8-3
GHG Emissions in California (2000 and 2017)**

Source Category	2000 (MMTCO _{2e})	Percent of Total	2017 (MMTCO _{2e})	Percent of Total
ENERGY	413.7	87.7%	348.9	82.3%
Energy Industries	159.12	33.7%	109.66	25.9%
Manufacturing Industries & Construction	22.75	4.8%	19.88	4.7%
Transport	179.78	38.1%	168.93	39.8%
Other Sectors (Residential/Commercial/Institutional)	44.67	9.5%	41.24	9.7%
Solid Fuels	0.04	0.0%	0.02	0.0%
Fugitive Emissions from Oil & Natural Gas	6.12	1.3%	8.2	1.9%
Fugitive Emissions from Geothermal Energy Production	1.13	0.2%	0.93	0.2%

³⁸ US Environmental Protection Agency. 2016. *Inventory of U.S. Greenhouse Gas Emissions and Sinks*. April. Available online at: https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf, accessed March 25, 2019.

³⁹ California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary*. June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

⁴⁰ World Resources Institute. 2017. *6 Charts to Understand U.S. State Greenhouse Gas Emissions*. Available online at: <https://www.wri.org/blog/2017/08/6-charts-understand-us-state-greenhouse-gas-emissions>, accessed October 3, 2019.

⁴¹ California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary*. June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

Source Category	2000 (MMTCO _{2e})	Percent of Total	2017 (MMTCO _{2e})	Percent of Total
Pollution Control Devices	0.11	0.0%	0.05	0.0%
INDUSTRIAL PROCESSES & PRODUCT USE	19.7	4.2%	33.6	7.9%
Mineral Industry	5.60	1.2%	4.93	1.2%
Chemical Industry	0.06	0.0%	0.00	0.0%
Metal Industry	0.07	0.0%	0.00	0.0%
Non-Energy Products from Fuels & Solvent Use	3.30	0.7%	1.88	0.4%
Electronics Industry	0.20	0.0%	0.17	0.0%
Substitutes for Ozone Depleting Substances	5.62	1.2%	19.64	4.6%
Other Product Manufacture and Use	1.52	0.3%	1.18	0.3%
Other	3.31	0.7%	5.81	1.4%
AGRICULTURE, FORESTRY, & OTHER LAND USE	29.0	6.1%	30.7	7.2%
Livestock	19.62	4.2%	22.68	5.3%
Aggregate Sources & Non-CO ₂ Sources on Land	9.40	2.0%	8.07	1.9%
WASTE	9.3	2.0%	10.8	2.5%
Solid Waste Disposal and Biological Treatment	7.22	1.5%	8.54	2.0%
Biological Treatment of Solid Waste	0.13	0.0%	0.35	0.1%
Wastewater Treatment & Discharge	1.93	0.4%	1.94	0.5%
EMISSIONS SUMMARY				
Gross California Emissions	471.7		424.1	

Source:

- ¹ California Air Resources Board, "California Greenhouse Gas 2000-2017 Inventory by IPCC Category - Summary," https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf.

As demonstrated in **Table 3.8-3**, California's 2017 GHG emissions are lower than 2000 levels. In 2007, California statewide GHG emissions peaked at 490.9 MMT CO_{2e}/year, since that time emissions have been following a declining trend. In 2017, emissions from routine emitting activities statewide were 66.8 million metric tons of CO_{2e} (MMTCO_{2e}) lower than peak GHG levels in 2007.⁴²

Cap and Trade Program

The state-wide cap and trade expenditure plan allocated \$832 million dollars towards programs that will help reduce GHG emissions, with set-asides for projects benefiting disadvantaged communities. The expenditure plan funds three main investment categories: (1) sustainable communities & clean transportation; (2) energy efficiency & clean energy; and (3) natural resources & waste diversion.⁴³

⁴² California Air Resources Board. 2019. *California Greenhouse Gas 2000-2017 Inventory by IPCC Category – Summary*. June. Available online at: https://ww3.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_sum_2000-17.pdf, accessed August 13, 2019.

⁴³ Southern California Association of Governments. 2015. *The Greenhouse Gas Reduction Fund*. Available online at: <http://www.scag.ca.gov/programs/Pages/GGRFExpenditurePlan.aspx?opentab=2>, accessed March 25, 2019.

The Affordable Housing & Sustainable Communities (AHSC) Program is a statewide competitive program that provides grants and loans for affordable housing, infill development, transit-oriented development and related infrastructure. The Strategic Growth Council (SGC) and Department of Housing and Community Development (HCD) administer the program, including project evaluation and the approval of funding awards.⁴⁴ 19 projects in the SCAG region were awarded funding for Round Three of the AHSC Program. The 19 projects totaled approximately \$258 million, exhausting the available budget for Round Three projects. The Fiscal Year (FY) 2019–2020 Cap and Trade Expenditure Plan proposes \$1.4 billion to support programs that sequester GHG emissions, enhance the state’s resiliency to climate change, benefit disadvantaged communities most impacted by climate change, and expand the state’s workforce skill base in industries and occupations that anchor the carbon-neutral economy.⁴⁵ The Greenhouse Gas Reduction Fund (GGRF) is expected to be \$2.1 billion in FY 2019–2020.⁴⁶ The program is in its fourth round with a current Notice of Funding Available of approximately \$395 million.⁴⁷

SCAG Region

The most recent GHG emissions data by sector for the SCAG region is from 2012. Similar to the 2013 U.S. and California GHG emission profiles, transportation, industrial, and electricity are the three largest contributors to GHG emissions. Total SCAG emissions in 2020 were estimated to be 216 MMTCO_{2e}. Transportation emissions are most prevalent relative to all other sectors in California and specifically in the SCAG region. Transportation emissions accounted for approximately 38 percent of total emissions in the SCAG region, compared to 26 percent of total emissions in the United States in 2008.⁴⁸

Fossil fuel carbon dioxide emissions (FFCO₂) for 2011 were calculated across the Los Angeles megacity, which includes Los Angeles, Orange, Riverside, Santa Barbara, and Ventura Counties. The total FFCO₂ emissions were calculated to be approximately 48.06±5.3 megatons of carbon dioxide per year

⁴⁴ California Strategic Growth Council. 2019. *Affordable Housing and Sustainable Communities Program: Round 4 FY 2017-2018 Program Guidelines*. Available online at: http://sgc.ca.gov/programs/ahsc/docs/20190221-AHSC_17-18_Guidelines-Updated.pdf, accessed August 21, 2019.

⁴⁵ State of California. 2019. *California State Budget 2019-2020*. Available online at: <http://www.ebudget.ca.gov/2019-20/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf>, accessed October 2, 2019.

⁴⁶ Near Zero. 2019. *California’s Cap and Trade Proceeds will Likely Exceed Governor’s Estimates*. Available online at: <http://www.nearzero.org/wp/2019/01/30/californias-cap-and-trade-proceeds-will-likely-exceed-governors-estimate/>, accessed October 2, 2019.

⁴⁷ State of California.. *Notice of Funding Availability Affordable Housing and Sustainable Communities Program*. Available online at: <http://www.hcd.ca.gov/grants-funding/active-funding/ahsc/docs/AHSC-NOFA-Round-4-FINAL.pdf>, accessed October 2, 2019.

⁴⁸ Final Southern California Association of Governments. 2012. *Regional Greenhouse Gas Inventory and Reference Case Projections, 1990-2035*. Available online at: http://sustain.scag.ca.gov/Sustainability%20Portal%20Document%20Library/05-30-12_SCAG_Revised_IF%20Report_Final.pdf, accessed October 2, 2019.

(MtCO₂/yr), or 53.4±5.9 MMT CO_{2e}/year, with transportation emissions accounting for approximately 50.4% of these emissions⁴⁹. Los Angeles County contributed approximately 55% of the total FFCO₂ emissions, followed by San Bernardino, Orange, Riverside, and Ventura Counties. These results are consistent with SCAG estimates of GHG emissions for 2016 (see **Table 3.8-4, Greenhouse Gas Emissions from Transportation by County**, in **Section 3.8.3.3, Impacts and Mitigation Measures**). It should be noted that the 2011 FFCO₂ estimates does not include Imperial County, however, according to **Table 3.8-7**, in 2016 Imperial County only contributed approximately 1.7% of the regional total transportation GHG emissions. Therefore, these results are representative of the SCAG region.⁵⁰

Goods Movement

As discussed in **Section 3.17, Transportation Traffic and Safety**, goods movement includes trucking, rail freight, air cargo, marine cargo, and both domestic and international freight, the latter entering the country via the seaports, airports, and the international border with Mexico. Additionally, many cargo movements are intermodal, for example, sea to truck, sea to rail, air to truck, or truck to rail. The goods movement system includes not only highways, railroads, sea lanes, and airways, but also intermodal terminals, truck terminals, railyards, warehousing, freight consolidation/de-consolidation terminals, freight forwarding, package express, customs inspection stations, truck stops, and truck queuing areas.

SCAG plans for goods movement are consistent with executive orders from the governor that directs MPOs to integrate climate change policies to support the State's effort to reduce per capita GHG emissions and combat the effects of climate change. California Executive Order S-3-05 (June 1, 2005 - Schwarzenegger) called for a coordinated approach to address the detrimental air quality effects of greenhouse gases (GHGs).⁵¹ More recently, California Executive Order B-16-12 supports the rapid commercialization of zero emission vehicles sets a 2050 GHG emissions reduction goal for the transportation sector to achieve 80 percent less emissions than 1990 levels. Executive Order B-32-15 works toward achieving GHG reduction targets with the California Sustainable Freight Action Plan, an integrated plan that establishes clear targets to improve freight efficiency, transition to zero-emission technologies and increase competitiveness of California's freight system. In addition, Executive Order B-30-15 established an interim statewide GHG emission reduction target to reduce GHG emissions to 40

⁴⁹ Gurney, Kevin R., et al. *The Hestia fossil fuel CO₂ emissions data product for the Los Angeles megacity (Hestia-LA)*. Earth System Science Data. August 2019. Available online at: <https://www.earth-syst-sci-data.net/11/1309/2019/essd-11-1309-2019.pdf>, accessed September 4, 2019.

⁵⁰ Ibid.

⁵¹ State of California. *California Climate Change Executive Orders*. Available online at: https://www.climatechange.ca.gov/state/executive_orders.html, accessed September 16, 2019.

percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

Public Health

The changing climate's effect on temperature, air quality, wildfires, droughts, and the spread of diseases will threaten the health and wellbeing of everyone in the SCAG region. Climate change threatens the water supply, food security, air quality and shelter and leads to more extreme heat days, drought, and sea level rise.

Extreme heat days are days in which the temperature exceeds the 98th percentile of maximum temperature for a given location. Extreme weather conditions, particularly extreme heat days results in adverse outcomes for human health. Heat-induced illnesses include heat stroke, heat exhaustion, dehydration, and premature death from cardiovascular or respiratory disease. The effects of extreme heat days is further exacerbated by the urban heat island effects, which is caused by dense urban areas that have more buildings, pavement, and dark surfaces with less greenery and green spaces.

As a result of extreme heat days there may be longer and more severe droughts. Extreme heat can lead to excessive drying of soil and vegetation as well as melting of California's Sierra Nevada snowpack.

Climate change can also lead to sea level rise. Orange County has the greatest risk for inundation within the SCAG region, with 3.6 percent of the population in an inundation zone. Los Angeles and Ventura Counties have 1.6% and 0.17%, respectively, of their county population living within inundation zones. Sea level rise can lead to flooding in these areas and can create important health consequences such as contaminating drinking water or respiratory issues from mold in flood-damaged homes.

Ongoing GHG Emission Reduction and Adaption Strategies in the SCAG Region

Climate change affects natural and human systems globally. Climate mitigation strategies include reducing or sequestering GHG emissions, while climate adaptation is preparing for the unavoidable impacts from climate change. Climate mitigation strategies include, but are not limited to:⁵²

- Promoting energy efficiency in buildings
- Using low carbon electricity
- Transitioning to high efficiency heating and cooling systems

⁵² Energy + Environmental Economics. 2015. *Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios*. Available online at: https://ww3.arb.ca.gov/html/fact_sheets/e3_2030scenarios.pdf , accessed March 25, 2019.

- Using low carbon and alternative fuels
- Incorporating zero emission or hybrid vehicles
- Incorporating healthy community planning (active transportation)
- Increasing urban density
- Reducing automobile dependence
- Increasing transit options
- Integrating renewable energy
- Improving waste management

Climate adaptation solutions would be long term and require a shift in thinking on how communities are designed. Adaptation strategies include, but are not limited to:⁵³

- Using scarce water more efficiently
- Adapting building codes to future climate conditions and extreme weather events
- Building flood defenses and raising the levels of levees
- Developing drought tolerant crops
- Implementing urban tree planting and reforestation
- Setting aside land corridors for species migration
- Increasing collaboration on climate preparedness strategies among public agencies

Multiple jurisdictions in the SCAG region have taken action to address climate change. After assessing the climate vulnerabilities distinct to their community, these jurisdictions formulate a plan to move forward to minimize the impacts of these vulnerabilities. These actions take the form of climate action plans, general plan policies, GHG reduction plans, sustainability plans, and ordinances.⁵⁴ SCAG has undertaken several planning efforts including studying adaptation strategies and assisting jurisdictions in developing Climate Action Plans.

⁵³ California Air Resources Board. 2015. *FAQ about EO B-30-15: 2030 Carbon Target and Adaptation*. Available online at: http://www.arb.ca.gov/newsrel/2030_carbon_target_adaptation_faq.pdf, accessed March 25, 2019.

⁵⁴ California Governor's Office of Planning and Research. 2014. *California Jurisdictions Addressing Climate Change*. Available online at: http://www.ca-ilg.org/sites/main/files/file-attachments/california_jurisdictions_addressing_climate_change_pdf_0.pdf, accessed March 25, 2019.

SCAG presents annual Sustainability Awards to recognize exemplary planning projects that support the core principles of mobility, livability, prosperity, and sustainability.

Past Sustainability Award winners include:

2018:

- City of Long Beach – 2017 Bicycle Master Plan, Communities of Excellence in Nutrition, Physical Activity and Obesity Prevention (CX3) & Willow Springs Wetland Restoration Project
- City of Cathedral City & SCRAP Gallery – Cycle Cathedral City Bicycle Outreach and Education Program
- City of San Fernando – Corridors Specific Plan
- Cities of Arcadia, Azusa, Duarte, Irwindale, Monrovia, San Marino, South Pasadena and LA Metro – 626 Golden Streets
- City of Rancho Cucamonga – Rancho Cucamonga Sustainable Community Action Plan
- City of Perris – Live Well Perris
- City of Hermosa Beach – PLAN Hermosa

2017:

- Transportation Corridor Agencies (TCA) – Foothill South Settlement Agreement
- UCLA Department of Transportation – UCLA BruinBikeSmart
- City of San Bernardino – Waterman + Baseline Neighborhood Specific Plan
- Imperial County Transportation Commission (ICTC) – Pedestrian and Bicycle Transportation Access Study for the California/Baja California Land Ports of Entry
- Los Angeles County Department of Parks and Recreation – Los Angeles County Master Plan for Sustainable Parks and Recreation: Phase 1
- City of Lynwood – Lynwood Safe and Healthy Communities Element
- City of Long Beach – Midtown Specific Plan

3.8.2 REGULATORY FRAMEWORK

3.8.2.1 International

Intergovernmental Panel on Climate Change

The World Meteorological Organization (WMO) and United Nations Environmental Program (UNEP) established the IPCC in 1988. The goal of the IPCC is to evaluate the risk of climate change caused by human activities. Rather than performing research or monitoring climate, the IPCC relies on peer-reviewed and published scientific literature to make its assessment. While not a regulatory body, the IPCC assesses information (i.e., scientific literature) regarding human-induced climate change and the impacts of human-induced climate change and recommends options to policy makers for the adaptation and mitigation of climate change. The IPCC reports its evaluations in special reports called assessment reports. The latest assessment report (i.e., Fifth Assessment Report, consisting of three working group reports and a synthesis report based on the first three reports) was published in 2013. In its 2013 report, the IPCC stated that global temperature increases since 1951 were extremely likely attributable to man-made activities (greater than 95 percent certainty).⁵⁵ The IPCC anticipates the release of the Sixth Assessment Report in 2022.⁵⁶

Paris Accord

The most recent international climate change agreement was adopted at the United Nations Framework Convention on Climate Change in Paris in December 2015 (the “Paris Accord”).⁵⁷ In the Paris Accord, the United States set its intended nationally determined contribution to reduce its GHG emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets were set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050.

⁵⁵ IPCC. 2013. *Climate Change 2013 The Physical Science Basis*.

⁵⁶ IPCC. *AR6 Synthesis Report: Climate Change 2022*. Available online at: <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>, accessed August 13, 2019.

⁵⁷ United Nations, Paris Agreement. 2015. *Paris Agreement*. Available online at: http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf, accessed April 17, 2018

However, in June 2017, the U.S. announced its intent to withdraw from the Paris Accord.⁵⁸ The earliest effective date of a withdrawal by the U.S. is November 2020.

In an effort to reach the goals set by the Paris Accord, over 9,000 cities and local governments from 132 countries across the world formed the Global Covenant of Mayors (GCoM) with the goal of collectively reducing 1.3 billion tons of CO₂ emissions per year by 2030.⁵⁹ 158 cities within the United States have joined GCoM despite the federal government announcing its intent to withdraw from the Paris Accord. Many of these cities are in the SCAG region, including Los Angeles, Lancaster, Long Beach, Manhattan Beach, Santa Monica, West Hollywood, and Palm Springs.⁶⁰

3.8.2.2 Federal

Global Change Research Act (1990)

In 1990, Congress passed and the President signed Public Law 101-606, the Global Change Research Act.⁶¹ The purpose of the legislation was: "...to require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions towards international protocols in global change research, and for other purposes." To that end, the Global Change Research Information Office was established in 1991 to serve as a clearinghouse of information. The Act requires a report to Congress every four years on the environmental, economic, health and safety consequences of climate change; however, the first and only one of these reports to date, the National Assessment on Climate Change, was not published until 2000. In February 2004, operational responsibility for GCRIO shifted to the U.S. Climate Change Science Program.

Supreme Court Ruling

The US Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that carbon dioxide and other greenhouse gases are pollutants under the Federal Clean Air Act (CCA),

⁵⁸ The White House. *Statement by President Trump on the Paris Climate Accord*. Available online at: <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>, accessed April 17, 2018.

⁵⁹ Global Covenant of Mayors for Climate & Energy Change. *About Us*. Available online at: <https://www.globalcovenantofmayors.org/about/>, accessed September 3, 2019.

⁶⁰ Global Covenant of Mayors for Climate & Energy. *USA*. Available online at: <https://www.globalcovenantofmayors.org/region/usa/>, accessed September 3, 2019.

⁶¹ Global Change Research Act (Public Law 101-606, 104 Stat. 3096-3104). 1990. Available online at: <https://www.govinfo.gov/content/pkg/STATUTE-104/pdf/STATUTE-104-Pg3096.pdf>, accessed August 13, 2019.

which the US Environmental Protection Agency (USEPA) must regulate if it determines they pose an endangerment to public health or welfare.

US EPA Endangerment Finding

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act (42 USC Section 7521):⁶²

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Energy Policy Act of 1992 (EPAAct)

The Energy Policy Act of 1992 (EPAAct)⁶³ was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005⁶⁴ provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan

⁶² U.S. Environmental Protection Agency. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act*. Available online at: <https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-clean-air-act>, accessed August 13, 2019.

⁶³ H.R. 776 – Energy Policy Act of 1992. Available online at: <https://www.congress.gov/bill/102nd-congress/house-bill/776/text/enr>, accessed August 13, 2019.

⁶⁴ Energy Policy Act of 2005. Available online at: <https://www.energy.gov/sites/prod/files/edg/media/HR6PP%281%29.pdf>, accessed August 13, 2019.

guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act

The Energy Independence and Security Act of 2007⁶⁵ includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce greenhouse gas emissions as a result. First, the Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Third, the adopted bill includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

EPA Reporting Rule

The US Environmental Protection Agency (USEPA) adopted a mandatory GHG reporting rule in September 2009.⁶⁶ The rule would require suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the USEPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers were required to begin reporting GHG emissions for model year 2011.

Fuel Economy Standards

On September 15, 2009, the National Highway Traffic Safety Administration (NHTSA) and EPA announced a proposed joint rule that would explicitly tie fuel economy to GHG emissions reductions requirements. The proposed new Corporate Average Fuel Economy (CAFE) Standards⁶⁷ would cover automobiles for model years 2012 through 2016 and would require passenger cars and light trucks to meet a combined, per mile, carbon dioxide emissions level. It was estimated that by 2016, this GHG

⁶⁵ U.S. Environmental Protection Agency. *Summary of the Energy Independence and Security Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act>, accessed August 13, 2019.

⁶⁶ U.S. Environmental Protection Agency. *Greenhouse Gas Reporting Program (GHGRP)*. Available online at: <https://www.epa.gov/ghgreporting/history-proposed-rules>, accessed August 13, 2019.

⁶⁷ U.S. Department of Transportation, Corporate Average Fuel Economy (CAFE) Standards. Available online at: <https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards>, accessed August 9, 2019.

emissions limit could equate to an overall light-duty vehicle fleet average fuel economy of as much as 35.5 miles per gallon. The proposed standards would require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile under EPA's GHG program.

On November 16, 2011, EPA and NHTSA issued a joint proposal to extend the national program of harmonized GHG and fuel economy standards to model year (MY) 2017 through 2025 passenger vehicles. In August 2012, President Obama finalized standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by MY 2025.

On January 12, 2017, EPA Administrator Gina McCarthy signed her determination to maintain the GHG emissions standards for model year MY 2022-2025 vehicles. Her final determination found that automakers are well positioned to meet the standards at lower costs than previously estimated.⁶⁸

On March 15, 2017, the new EPA Administrator Scott Pruitt and Department of Transportation Secretary Elaine Chao announced that EPA intended to reconsider the final determination, issued on January 12, 2017, that recommended no change to the greenhouse gas standards for light duty vehicles for model years 2022- 2025.⁶⁹

On April 2, 2018, the Administrator signed the Mid-term Evaluation Final Determination which finds that the model year 2022-2025 greenhouse gas standards are not appropriate in light of the record before EPA and, therefore, should be revised.⁷⁰

On September 19, 2019, under the Safer, Affordable, Fuel-Efficient (SAFE) Vehicles Rule, the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and the U.S. EPA issued the final "One National Program Rule." The rule states that federal law preempts state and local laws regarding tailpipe GHG emissions standards, zero emissions vehicle mandates, and fuel economy for automobiles and light duty trucks. The rule revokes California's Clean Air Act waiver and

⁶⁸ U.S. Environmental Protection Agency. *Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emissions Standards for Model Years 2022-2025*. Available online at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas>, accessed August 13, 2019.

⁶⁹ Ibid.

⁷⁰ Ibid.

preempts California’s Advanced Clean Car Regulations and may potentially impact SCAG’s Connect SoCal and transportation projects in the SCAG region.^{71,72}

On September 20, 2019, a lawsuit was filed by California and a coalition of 22 other states, and the cities of Los Angeles, New York and Washington, D.C., in the United States District Court for the District of Columbia (Case 1:19-cv-02826) challenging the SAFE Rule and arguing that EPA lacks the legal authority to withdraw the California waiver. As such, at the time of this PEIR, it is unclear whether the SAFE Rule will remain in place.⁷³

Heavy-Duty Vehicle Program

In May 2010, President Barack Obama issued a Presidential Memorandum Regarding Fuel Efficiency Standards requesting that USEPA and National Highway Traffic Safety Administration (NHTSA) take additional coordinated steps to produce a new generation of clean vehicles.⁷⁴ In response, USEPA and NHTSA adopted regulations governing Medium- and Heavy-Duty Greenhouse Gas Emissions and Fuel Efficiency (title 40, Code of Federal Regulations, Chapter I) on September 15, 2011 (most recently amended on August 16, 2013) to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014 through model year 2018. On February 18, 2014, the President directed EPA and NHTSA to set the next round of fuel efficiency standards for Medium- and heavy-duty vehicles (beyond model year 2018) that will build on the existing standards to further reduce fuel consumption through the application of advanced cost-effective technologies and continue to improve the efficiency of moving goods across the United States. In October 2016, US EPA and NHTSA adopted Phase 2 GHG and fuel efficiency standards for medium- and heavy-duty engines and vehicles.⁷⁵

⁷¹ U.S. Department of Transportation and U.S. EPA. 2019. *One National Program Rule on Federal Preemption of State Fuel Economy Standards*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=P100XI4W.pdf>, accessed October 29, 2019.

⁷² Southern California Association of Governments. 2019. *Final Federal Safer, Affordable, Fuel-Efficient Vehicles Rule Part I (Supplemental Report)*. Available online at: http://www.scag.ca.gov/committees/CommitteeDocLibrary/EEC_Item8_RC_Item10%20Supplemental%20Report.pdf, accessed October 29, 2019.

⁷³ If the SAFE Rule remains in place, the State and region would have to develop other means of achieving the NAAQS.

⁷⁴ The White House, President Barack Obama. 2010. *Presidential Memorandum Regarding Fuel Efficiency Standards*. Available online at: <https://obamawhitehouse.archives.gov/the-press-office/presidential-memorandum-regarding-fuel-efficiency-standards>, accessed August 13, 2019.

⁷⁵ U.S. Environmental Protection Agency. *Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2*. Available online at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency#rule-history>, accessed March 1, 2018.

Clean Power Plan

In 2015, US EPA published the Clean Power Plan (80 Fed. Reg. 64661, October 23, 2015).⁷⁶ The Clean Power Plan sets achievable standards to reduce CO₂ emissions by 32 percent from 2005 levels by 2030. This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, US EPA is establishing: (1) CO₂ emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil-fuel-fired EGUs, fossil-fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO₂ goals reflecting the CO₂ emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO₂ emission performance rates, which may be accomplished by meeting the state goals. This final rule would continue progress already under way in the United States to reduce CO₂ emissions from the utility power sector. On February 9, 2016, the Supreme Court (Order No. 15A773) stayed implementation of the Clean Power Plan pending judicial review. As directed by Executive Order on Energy Independence,⁷⁷ the U.S. EPA officially repealed the Clean Power Plan in June 2019 and issued the final Affordable Clean Energy rule in its place.⁷⁸

Affordable Clean Energy Rule

The U.S. EPA issued the Affordable Clean Energy (ACE) rule on June 19, 2019, in order to replace the Clean Power Plan. The ACE rule establishes emissions guidelines for states to use when developing plans to limit carbon dioxide at coal-fired power plants. Specifically, the ACE rule aims at improving the heat rate as the best system of emissions reductions for carbon dioxide at coal-fired power plants and these improvements can be made at individual facilities. States will have three years to submit plans. The EPA estimates that the ACE rules will result in a reduction of CO₂ emissions from the electricity sector by as much as 35% below 2005 levels by 2030.⁷⁹

⁷⁶ US Environmental Protection Agency. *Carbon Pollution Standards for New, Modified and Reconstructed Power Plants: Regulatory Actions*. Available online at: <https://archive.epa.gov/epa/cleanpowerplan/carbon-pollution-standards-new-modified-and-reconstructed-power-plants-regulatory.html>, accessed August 13, 2019.

⁷⁷ The White House. 2017. *Presidential Executive Order on Promoting Energy Independence and Economic Growth*. Available online at: <https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/>, accessed August 13, 2019.

⁷⁸ U.S. Environmental Protection Agency. 2019. *EPA Finalizes Affordable Clean Energy Rule, Ensuring Reliable, Diversified Energy Resources while Protecting the Environment*. Available online at: <https://www.epa.gov/newsreleases/epa-finalizes-affordable-clean-energy-rule-ensuring-reliable-diversified-energy>, accessed August 22, 2019.

⁷⁹ Ibid.

Federal Highway Administration's Climate Change and Extreme Weather Vulnerability Assessment Framework

Published in December 2012, the Climate Change and Extreme Weather Vulnerability Assessment Framework is a guidance document for transportation agencies to assess their vulnerability to climate change and extreme weather events. Objectives for a vulnerability assessment may include siting new assets in areas less vulnerable to climate change, educating staff regarding overall climate risks to the agency's transportation system, or informing the development of adaptation strategies. Based on these objectives, an agency can then select and characterize relevant assets and identify climate variables for study. The vulnerability assessment is an iterative process; information gathered on assets may inform climate information needs and vice versa.⁸⁰

Executive Order on Energy Independence

On March 28, 2017, President Donald Trump signed Executive Order 13783, "Promoting Energy Independence and Economic Growth," which calls for:⁸¹

- Review of the Clean Power Plan
- Review of the 2016 Oil and Gas New Source Performance Standards for New, Reconstructed, and Modified Sources
- Review of the Standards of Performance for GHG Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units
- Withdrawal of Proposed Rules: Federal Plan Requirements for GHG Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; and Clean Energy Incentive Program Design Details

⁸⁰ U.S. Department of Transportation. 2012. *The Federal Highway Administration's Climate Change & Extreme Weather Vulnerability Assessment Framework*. Available online at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/fha_cc_and_extreme_weather_vulnerability_assessment_framework.pdf, accessed August 22, 2019.

⁸¹ The White House. 2017. *Presidential Executive Order on Promoting Energy Independence and Economic Growth*. Available online at: <https://www.whitehouse.gov/presidential-actions/presidential-executive-order-promoting-energy-independence-economic-growth/>, accessed August 13, 2019.

3.8.2.3 State

Coastal Act

The California Coastal Act of 1976 directs the California Coastal Commission (Coastal Commission) to protect and enhance the State's coastal resources.⁸² The Coastal Commission has planning, regulatory, and permitting authority over all development within the coastal zone, whose landward boundary varies with location. The Act governs coastal hazards for new development, mandating that it minimize risks to life and property in areas of high flood. New development must be located such that it will not be subject to erosion or stability hazard over the course of its design life, and construction of protective devices (e.g., seawalls, revetment) that substantially alter natural land forms along bluffs and cliffs are not permitted (Section 30253).

The Coastal Commission's mandate extends to climate change, including sea level rise; however, the agency is currently assessing how best to address sea level rise and other challenges resulting from climate change. The Coastal Commission partners with local governments to form Local Coastal Programs (LCPs), transferring the power to regulate development within the coastal zone to cities and counties. Within the Bay Area, all of San Mateo, San Francisco, Marin, and Sonoma counties, along with the cities of Daly City, Pacifica and Half Moon Bay have certified LCPs. Any changes in the Coastal Commission's policies and/or regulations with respect to sea level rise may ultimately require revisions to LCPs.

Senate Bill 1078 (SB 1078), Senate Bill 107 (SB 107), Executive Order (EO) S-14-08, Executive Order S-21-09 (Renewables Portfolio Standard), and Senate Bill 100 (SB 100)

On September 12, 2002, Governor Gray Davis signed SB 1078 (Chapter 516, Statutes of 2002) requiring California to generate 20 percent of its electricity from renewable energy by 2017.⁸³ SB 107 (Chapter 464, Statutes of 2006), signed by the Governor on September 26, 2006 changed the due date for this goal from 2017 to 2010.⁸⁴ On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewables Portfolio Standard goal for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.⁸⁵ Increased use of renewable energy sources will decrease California's reliance on fossil fuels, reducing emissions of GHGs from the

⁸² California Coastal Commission. 2019. *Public Resources Code Division 20 California Coastal Act*. Available online at: <https://www.coastal.ca.gov/coastact.pdf>, accessed August 14, 2019.

⁸³ California Legislative Information. 2002. *Senate Bill 1078*.

⁸⁴ California Legislative Information. 2006. *Senate Bill 107*.

⁸⁵ Office of the Governor, Arnold Schwarzenegger. 2008. *Executive Order S-14-08*.

energy sector. In April 2011, SB X1-2 required that all electricity retailers adopt the new RPS goals providing 20 percent renewable sources by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.⁸⁶ SB 350 of 2015 (Chapter 547, Statutes of 2015) increased the renewable portfolio standard to 50 percent by the year 2030.⁸⁷

Executive Order S-21-09 directs CARB to adopt regulations to increase California’s Renewables Portfolio Standard (RPS) to 33 percent by 2020.⁸⁸ The target was signed into law as SB 2 by Governor Brown in April 2011. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010. In September 2018, SB 100 was approved by Governor Brown. SB 100 requires an updated goal of 60% renewable energy resources by the year 2030, and 100% zero-carbon energy by the year 2045.⁸⁹

Assembly Bill 1493 (AB 1493) (Pavley Regulations) - Vehicular Emissions Greenhouse Gas Emission Standards

In September 2002, AB 1493 (Chapter 200, Statutes of 2002) (referred to as Pavley I)⁹⁰ was enacted, requiring the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG” will cover 2017 to 2025 (13 Cal. Code Regs. Section 1900 *et seq.*).⁹¹ Fleet average emission standards were to reach a 22 percent reduction by 2012 and 30 percent by 2016.

Assembly Bill 32 (AB 32) and CARB Scoping Plan

The State of California has implemented numerous laws targeting GHG emissions. Chief among these is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (Health & Safety Code Section 38500 *et seq.*).⁹² AB 32 represents the first enforceable statewide program to limit GHG emissions from all major sectors with penalties for noncompliance. Like EO S-3-05, AB 32 requires the State of

⁸⁶ California Legislative Information. 2011. *Senate Bill 2*.

⁸⁷ California Legislative Information. 2015. *SB-350 Clean Energy and Pollution Reduction Act of 2015*.

⁸⁸ The Center for Climate Strategies. 2010. *Executive Order S-21-09*. Available online at: <http://www.climatestrategies.us/library/library/view/290>, accessed August 14, 2019.

⁸⁹ California Legislative Information. 2018. *Senate Bill 100*.

⁹⁰ Assembly Bill No. 1493. 2002.

⁹¹ California Air Resources Board. 2007. *The California Low-Emission Vehicle Regulations*. Available online at: https://ww3.arb.ca.gov/msprog/levprog/cleandoc/cleancomplete_lev-ghg_regs_9-07.pdf, accessed on August 14, 2019.

⁹² Assembly Bill 32. 2006.

California to reduce its emissions to 1990 levels by 2020. The Act establishes key deadlines for certain actions the state must take in order to achieve the reduction target. The first action under AB 32 resulted in California Air Resources Board's (CARB) adoption of a report listing three specific early action GHG reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32.⁹³

As required under AB 32, on December 6, 2007, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 MMTCO_{2e}, since updated to 431 MMTCO_{2e}.⁹⁴ The inventory indicated that in 1990, transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide; followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (figures are based on the 1990 inventory). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 target by 2020.

In addition to the 1990 emissions inventory, CARB also adopted regulations requiring the mandatory reporting of GHG emissions for large facilities on December 6, 2007 (17 Cal. Code Regs. Section 95100 *et seq.*).⁹⁵ The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of GHG emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of CO₂ each year from on-site stationary combustion sources. Affected facilities began tracking their emissions in 2008, and reported them beginning in 2009, with a phase-in process to allowed facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 could be based on best available emission data. Beginning in 2010, however, emissions reporting requirements became more rigorous and are subject to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

⁹³ CARB. *Early Action Items*. Available online at: <https://ww3.arb.ca.gov/cc/ccea/ccea.htm>, accessed April 17, 2018.

⁹⁴ CARB. 2017. *California 1990 Greenhouse Gas Emissions Level and 2020 Limit*. Available online at: <https://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>, accessed April 18, 2017.

⁹⁵ CARB. 2007. *Notice of Public Availability of Modified Text: Public Hearing to Consider Adoption of a Regulation for the Mandatory Reporting of Greenhouse Gas Emissions*. Available online at: <https://ww3.arb.ca.gov/regact/2007/ghg2007/15daynotice.pdf>, accessed August 21, 2019.

In December 2008, CARB adopted a *Climate Change Scoping Plan*⁹⁶ indicating how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The *Climate Change Scoping Plan* identifies 18 recommended strategies the state should implement to achieve AB 32.

CARB's initial Scoping Plan contains the main strategies California would implement to reduce the projected 2020 Business-as-Usual (BAU) emissions to 1990 levels, as required by AB 32. These strategies are intended to reduce CO_{2e}⁹⁷ emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MTCO_{2e} (MMTCO_{2e}) under a BAU⁹⁸ scenario. This reduction of 42 million MTCO_{2e}, or almost 10 percent from 2002 to 2004 average emissions, would be required despite the population and economic growth forecast through 2020.

CARB's initial Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial). CARB used 3-year average emissions, by sector, for 2009 to 2011 to forecast emissions to 2020. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.⁹⁹

On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update – discussed in more detail below), which outlines the proposed framework of action for achieving the SB 32 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.¹⁰⁰ See further discussion below.

⁹⁶ CARB. 2013. *Initial AB 32 Climate Change Scoping Plan* Document. Available online at: <https://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>, accessed April 17, 2018.

⁹⁷ Carbon dioxide equivalent (CO_{2e}) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

⁹⁸ “Business-as-Usual” refers to emissions expected to occur in the absence of any GHG reduction measure (California Environmental Protection Agency Air Resources Board Website, <http://www.arb.ca.gov/cc/inventory/data/bau.htm>, Accessed June 1, 2016). Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the “definition.”

⁹⁹ The First Update to California's Climate Change Scoping Plan was developed by CARB in collaboration with the CAT and reflects the input and expertise of a range of state and local government agencies. The 2014 Scoping Plan Update lays the foundation for establishing a broad framework for continued emission reductions beyond 2020.

¹⁰⁰ CARB. 2017. *California's 2017 Climate Change Scoping Plan*. Available online at: https://www3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed August 14, 2019.

Senate Bill 1 (SB 1)

SB 1 (2006) (Chapter 132, Statutes of 2006) set a goal to install 3,000 megawatts of new solar capacity by 2017, moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers.¹⁰¹ The “Million Solar Roofs” Program is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time. It provides up to \$3.3 billion in financial incentives that decline over time.

Assembly Bill 811 (AB 811)

AB 811 (2008) (Chapter 159, Statutes of 2008) authorizes California cities and counties to designate districts within which willing property owners may enter into contractual assessments to finance the installation of renewable energy generation and energy efficiency improvements that are permanently fixed to the property.¹⁰² These financing arrangements would allow property owners to finance renewable generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's property tax bill.

SB 1383-Short Lived Climate Pollutants

Short-lived climate pollutants (SLCP) SLCPs include black carbon (soot), methane, and fluorinated gases (F-gases). SB 1383 of 2016 (Chapter 395, Statutes of 2016) sets forth legislative direction for control of SLCPs.¹⁰³ It requires CARB, no later than January 1, 2018, to approve and begin implementing its SLCP strategy to achieve the following reductions in emissions by 2030 compared to 2013 levels: methane by 40 percent, hydrofluorocarbons by 40 percent, and black carbon (non-forest) by 50 percent. The bill also specifies targets for reducing organic waste in landfills. SB 1383 also requires CARB to adopt regulations to be implemented on or after January 1, 2024 specific to the dairy and livestock industry, requiring a 40 percent reduction in methane emissions below 2013 levels by 2030, if certain conditions are met. Lastly, the bill requires CalRecycle to adopt regulations to take effect on or after January 1, 2022 to achieve specified targets for reducing organic waste in landfills.

Senate Bill 375 (SB 375)

SB 375, adopted in 2008, builds on AB 32, SB 375 (Chapter 728, Statutes of 2008)¹⁰⁴ seeks to coordinate land use planning, housing planning, regional transportation planning, and GHG reductions. By

¹⁰¹ California Legislative Information. 2006. *Senate Bill 1*.

¹⁰² California Legislative Information. 2008. *Assembly Bill 811*.

¹⁰³ California Legislative Information. 2016. *Senate Bill 1383*.

¹⁰⁴ California Legislative Information. 2008. *Senate Bill 375*.

coordinating these efforts, it is envisioned that vehicle congestion and travel can be reduced resulting in a corresponding reduction in emissions. SB 375 directed CARB to set regional targets to reduce emissions; regional transportation plans are required to identify how they will meet these targets.

SB 375 has three major components:

- Using the regional transportation planning process to achieve reductions in emissions consistent with AB 32's goals.
- Offering California Environmental Quality Act (CEQA) incentives to encourage projects that are consistent with a regional plan that achieves emissions reductions.
- Coordinating the Regional Housing Needs Assessment (RHNA) process with the regional transportation process while maintaining local authority over land use decisions.

A Sustainable Communities Strategy (SCS) is a required component of the RTP. The SCS is a land use pattern for the region which, in combination with transportation policies and programs, strives to reduce emissions and helps meet CARB's targets for the region. An alternative planning strategy (APS) must be prepared if the SCS is unable to reduce emissions and achieve the emissions reduction targets established by CARB.

Certain transportation planning and programming activities must be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS. For the 2016 RTP/SCS cycle, CARB set reduction targets for the SCAG region at 8 percent for 2020 and 19 percent for 2035. This was an update to the previous 2035 target of 13 percent.¹⁰⁵

The 2018 Progress Report for SB 375 was written to assess progress made toward meeting GHG reduction targets and to include data-supported metrics for strategies utilized to meet those targets. It found that California is not on track to meet GHG reductions expected under SB 375, largely due to the fact that statewide passenger vehicle travel per capita is increasing. While California has hit its 2020 climate target ahead of schedule due to strong performance in the energy sector, meeting future targets will require a greater contribution from the transportation sector. Despite increases in fuel efficiency and decreases in the carbon content of fuel, transportation emissions have grown due to the high cost of housing, forcing residents to drive longer distances between the places they need to go.

The 2018 Progress Report also found that these growth patterns reinforce racial and economic injustices by disproportionately burdening low-income residents, who pay the highest proportion of their wages

¹⁰⁵ CARB Updated Targets March 2018 <https://ww3.arb.ca.gov/cc/sb375/sb375old.htm>

for housing and commuting. These residents also often live in communities with the most health impacts from lack of active transportation infrastructure and transportation pollution. Overall, CARB finds that structural changes at all levels of government are still necessary to meet climate goals and ancillary benefits.¹⁰⁶

Senate Bill 743

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and encourages development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas (TPAs) that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA.^{107, 108}

SB 743 directed OPR to identify appropriate criteria for the evaluation of transportation impacts. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. Vehicle level of service (LOS) and similar measures related to delay are not identified as appropriate metrics for determining the significance of transportation impacts under CEQA although they may still be appropriate for evaluation of projects as part of the planning process. The SB 743 guidance indicates that each jurisdiction throughout the state has until July 1, 2020, to adopt VMT as the metric for evaluation of transportation impacts, but until that date, lead agencies may elect to use VMT and/or LOS to analyze transportation impacts (although CEQA has already been revised to indicate VMT as the appropriate metric for evaluation of transportation impacts).

With respect to identifying what represents an appropriate threshold of significance for VMT impacts, the California Air Resources Board (CARB) published the *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report) which includes non-binding technical information on what level of statewide VMT reduction, in the judgment of CARB staff, would promote achievement of statewide GHG emission reduction targets.¹⁰⁹ CARB asserts that the currently adopted SCSs throughout the state “would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully

¹⁰⁶ CARB. 2018. *2018 Progress Report*. November. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf, accessed October 1, 2019.

¹⁰⁷ California Legislative Information. 2013. *Senate Bill No. 743*.

¹⁰⁸ For a further discussion of SB 743, see Section 3.17 *Transportation, Traffic and Safety*.

¹⁰⁹ California Air Resources Board. *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (Jan. 2019). Available online at: https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf, accessed October 24, 2019.

implemented.” However, in order to meet the state goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has “determined that those targets would be infeasible for MPOs to achieve with currently available resources.”

The CARB Report is based on modeling that incorporates cleaner technologies and fuels (CTF) assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy (as discussed below) and provides an “alternate assessment tool for jurisdictions that choose to use them to complete analyses directed by the CEQA Guidelines.” The CARB Report finds that:

*Certain land use development projects located in areas that would produce rates of **total** VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of **light-duty** VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. (Emphasis in original).¹¹⁰*

However, CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) also provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.¹¹¹ OPR cites to the CARB Report to reiterate that “consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact.”¹¹² OPR finds:

Based on OPR’s extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State’s long-term climate goals, OPR recommends that a per capita [residential] or per employee [office] VMT that is fifteen percent below that of existing development may be a reasonable threshold.¹¹³

As discussed in more detail in **Section 3.17 Transportation, Traffic and Safety**, for roadway capacity projects, OPR also recommends developing a project-level threshold based on VMT levels required to

¹¹⁰ CARB Report at p. 11.

¹¹¹ Governor’s Office of Planning and Research. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed July 25, 2019.

¹¹² OPR Technical Advisory at p. 11.

¹¹³ *Id.* at p.10.

achieve legally mandated GHG emission reduction targets as set forth in the CARB Scoping Plan and 2016 Mobile Source Strategy. OPR generally recommends a threshold of 15 percent below existing VMT per capita for residential and office with a no net increase for retail projects. OPR asserts that “land use projects, residential projects, office and retail projects tend to have the greatest influence on VMT” and suggests that lead agencies with more specific location information may develop their own more specific thresholds.

Executive Order (EO) S-3-05

On June 1, 2005, EO S-3-05 set the following GHG emission reduction goals: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050.^{114, 115} EO S-3-05 also calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of state agencies and progress reporting.

In response to the Executive Order, the Secretary of the Cal/EPA created the Climate Action Team (CAT).¹¹⁶ California’s CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the state. The council was given formal recognition in Executive Order S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 state agencies and departments.

¹¹⁴ While EO S-3-05 sets a goal that Statewide GHG emissions be reduced to 80 percent below 1990 levels by 2050, the EO does not constitute a “plan” for GHG reduction, and no State plan has been adopted to achieve the 2050 goal.

¹¹⁵ Office of the Governor, Arnold Schwarzenegger. 2005. *Executive Order S-3-05*.

¹¹⁶ State of California. *Climate Action Team & Climate Action Initiative*. Available online at: https://www.climatechange.ca.gov/climate_action_team/, accessed on August 14, 2019.

The CAT is responsible for preparing reports that summarize the state's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010.¹¹⁷ The CAT Report discusses mitigation and adaptation strategies, state research programs, policy development, and future efforts.

Executive Order (EO) S-1-07, the Low Carbon Fuel Standard

On January 18, 2007, EO S-1-07 was issued establishing a statewide goal to reduce at least 10 percent in the carbon intensity of California's transportation fuels by 2020.¹¹⁸ Regulatory proceedings and implementation of the Low Carbon Fuel Standard have been directed to the California Air Resources Board (ARB). The Low Carbon Fuel Standard has been identified by ARB as a discrete early action item in the *Climate Change Scoping Plan*.¹¹⁹ CARB expects the Low Carbon Fuel Standard to achieve the minimum 10 percent reduction goal; however, many of the early action items outlined in the *Climate Change Scoping Plan* work in tandem with one another. To avoid the potential for double-counting emission reductions associated with AB 1493 (see previous discussion), the *Climate Change Scoping Plan* has modified the aggregate reduction expected from the Low Carbon Fuel Standard to 9.1 percent.

Executive Order S-13-08

Executive Order S-13-08, signed on November 14, 2008, directs California to develop methods for adapting to climate change impacts through preparation of a statewide plan.¹²⁰ In response to this order, the California Natural Resources Agency coordinated with 10 state agencies, multiple scientists, a consulting team, and stakeholders to develop the first statewide, multi-sector adaptation strategy in the country. The resulting report, *2009 California Climate Adaptation Strategy*^{121,122} summarizes the best-known science to assess the vulnerability of the state to climate change impacts and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This strategy is the first step in an evolving process to reduce California's vulnerability to climate change impacts.

¹¹⁷ Climate Action Team. 2010. *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Available at: <https://ww2.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF>, accessed on August 14, 2019.

¹¹⁸ Office of the Governor, Arnold Schwarzenegger. 2007. *Executive Order S-01-07*. Available online at: <https://ww3.arb.ca.gov/fuels/lcfs/eos0107.pdf>, accessed August 14, 2019.

¹¹⁹ CARB. 2017. *California's 2017 Climate Change Scoping Plan*, November.

¹²⁰ The Center for Climate Strategies. 2008. *Executive Order S-13-08*. Available online at: <http://www.climatestrategies.us/library/library/view/293>, accessed August 14, 2019.

¹²¹ California Natural Resources Agency. 2009. *2009 California Climate Adaptation Strategy*.

¹²² This report has been updated twice, once in 2014, and once in 2018 to reflect current adaptation strategies and incorporate a "Climate Justice" chapter highlighting how equity is woven throughout the entire plan.

Adaptation refers to efforts that prepare the state to respond to the impacts of climate change – adjustments in natural or human systems to actual or expected climate changes to minimize harm or take advantage of beneficial opportunities. California’s ability to manage its climate risks through adaptation depends on a number of critical factors. These include its baseline and projected economic resources, technology, infrastructure, institutional support and effective governance, public awareness, access to the best available scientific information, sustainably managed natural resources, and equity in access to these resources.

Executive Order B-16-2012

In March 23, 2012, Governor Brown issued Executive Order B-16-2012 to encourage zero-emission vehicles (ZEVs) and related infrastructure.¹²³ It orders CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks concerning ZEVs. By 2020, the state’s ZEV infrastructure should support up to one million vehicles. By 2025, Executive Order B-16-2012 aims to put over 1.5 million ZEVs on California roads and displace at least 1.5 billion gallons of petroleum. The Executive Order also directs state government to begin purchasing ZEVs. In 2015, 10 percent of state departments’ light-duty fleet purchases must be ZEVs, climbing to 25 percent of light-duty fleet purchases by 2020. Executive Order B-16-2012 sets a target for 2050 to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels.

Executive Order N-19-19

On September 20, 2019, Governor Newsom issued Executive Order N-19-19 which requires the redoubling of the state’s “efforts to reduce greenhouse gas emissions and mitigate the impacts of climate change while building a sustainable, inclusive economy.” EO N-19-19 requires the Department of Finance to create a Climate Investment Framework with a strategy to align the state’s \$700 billion investment portfolio towards industries and sectors that contribute to the reduction of carbon emissions and increased resilience to the impacts of climate change. The State Transportation Agency shall leverage over \$5 billion in annual state transportation spending to reduce fuel consumption and GHG emissions associated with the transportation sector. The Department of General Services shall reduce the state government’s GHG footprint. Finally, the California Air Resources Board (CARB) shall develop new criteria for the clean vehicle incentive programs, propose new strategies to increase demand for zero

¹²³ State of California. 2012. *Executive Order B-16-2012*. Available online at: <https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html>, accessed on August 14, 2019.

emission vehicles, and consider strengthening existing or adopting new transportation-GHG reduction regulations in order to meet California’s goal of five million zero emissions vehicle sales by 2030.¹²⁴

California Cap-and-Trade Program

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the Cap-and-Trade Program is a core strategy that California is using to meet its statewide GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020 (17 CCR Sections 95800 to 96023).

In September 2012, CARB adopted a California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms, which established the cap-and-trade program to manage GHG emissions, for California. The cap-and-trade program is a market-based approach wherein the government determines an overall emission target, or “cap,” for a particular set of facilities. The cap is the total amount of emissions that all of the facilities can produce. Tradable emissions allowances totaling the overall emissions cap are distributed by auction or given out amongst the particular set of facilities. The emissions allowances can be traded amongst the facilities.

Under the Cap-and-Trade Program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 metric tons CO₂e per year) and declines over time, and facilities subject to the cap-and-trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the program’s duration (see generally 17 CCR Sections 95811, 95812). On July 17, 2017, the California Legislature passed Assembly Bill 398, extending the Cap-and-Trade Program through 2030.

The cap-and-trade regulation provides a firm cap, helping to ensure that the 2020 and 2030 statewide emission limits will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not direct GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are ensured on a state-wide basis.

¹²⁴ Adaptation Clearinghouse. 2019. *State of California Executive Order N-19-19*. Available online at: <https://www.adaptationclearinghouse.org/resources/state-of-california-executive-order-n-19-19.html>, accessed October 29, 2019.

Senate Bill 32 (SB 32) and AB 197

On September 8, 2016, California signed into law Senate Bill 32 (SB 32), which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels. SB 32 was passed with companion legislation AB 197 Chapter 250, Statutes of 2016), which provides greater legislative oversight of CARB's GHG regulatory programs, requires CARB to account for the social costs of GHG emissions, and establishes a legislative preference for direct reductions of GHG emissions.

CARB's 2017 Scoping Plan Update

In December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving California's SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels.

The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 MMTCO_{2e}, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO_{2e} beyond current policies and programs. Key elements of the 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

For the transportations sector, the 2017 Update indicates that while most of the GHG reductions will come from technologies and low carbon fuels, a reduction in the growth of vehicle miles traveled (VMT) is also needed. The 2017 Update indicates that stronger SB 375 GHG reduction targets will enable the State to make significant progress toward this goal, but alone will not provide all of the VMT growth reductions that will be needed. It notes that there is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals. The 2017 Update recommends that local governments consider policies to reduce VMT, including: land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

California Environmental Quality Act Guidelines Amendments

California Senate Bill (SB) 97 (Chapter 185, Statutes of 2007) required the Governor’s Office of Planning and Research (OPR) to develop California Environmental Quality Act (CEQA) Guidelines “for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions.” The *CEQA Guidelines* amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The significance of GHG emissions are specifically addressed in *State CEQA Guidelines* Section 15064.4. Section 15064.4 calls for a lead agency to make a “good-faith effort” to “describe, calculate or estimate” GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions; (2) whether the project emissions would exceed a locally applicable threshold of significance; and (3) the extent to which the project would comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.” The guidelines also state that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (*State CEQA Guidelines* Section 15064(h)(3)).

2016 Mobile Source Strategy

On May 16, 2016, the Air Resources Board (ARB or Board) released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy aims to deliver environmental and public health benefits as well as updates to transportation infrastructure, enhancements of systemwide efficiency, and clean growth in the mobile sector. The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in diesel particulate matter from today’s levels in the South Coast. CARB estimates statewide, the Mobile Source Strategy would also result in a 45 percent reduction in greenhouse gas emissions, and a 50 percent reduction in the consumption of petroleum-based fuels.

Discussion Draft of CEQA and Climate Change Advisory

In December 2018, OPR published updated guidance with respect to how to evaluate climate change as a whole, including analysis of transportation impacts (including consideration of SB 743) and how to

evaluate different types of projects including transportation projects and land use plans. This document summarizes relevant regulations and discusses different approaches (both quantitative and qualitative) to analyzing different types of projects. The document further discusses how the analysis of GHG for individual projects may be streamlined through the preparation of greenhouse gas emission reduction plans such as climate action plans. The document suggests that emissions from individual projects may best be analyzed and mitigated at the programmatic level in regional-level documents focused on GHG emissions such as climate action plans.¹²⁵

Caltrans Guidance on Incorporating Sea Level Rise

Pursuant to EO S-13-08 and the California Sea Level Rise Interim Guidance Document,¹²⁶ in May 2011 Caltrans released guidance on incorporating sea level rise into planning and decision making with respect to transportation projects. Caltrans' guidance recommends first determining if sea level should be incorporated into project planning, based on the project location and level of risk. A screening process with ten criteria guides the assessment of whether to incorporate sea level rise: design life, redundancy/alternative route(s), anticipated travel delays, evacuations/emergencies, traveler safety, expenditure of public funds, scope of project, effect on non-state highways, and environmental constraints. If the screening determines that sea level rise should be incorporated into project planning, the next step is to estimate the degree of potential impact and assess alternatives for preventing, mitigating and/or absorbing the impact. Caltrans uses the statewide sea level rise estimates presented in the California Sea Level Rise Interim Guidance Document for different years (2030 through 2100) to determine target sea level rise values; Caltrans directs projects with a life that extends to 2030 or earlier not to assume impacts from sea level rise. Having identified target sea level rise values for a project, Caltrans then lays out steps for implementation, including conducting more technical studies of inundation and subsidence and determining any adverse effects on facility functions and operations (e.g., from erosion, exposure to salt water), necessary adaptation measures, and the costs of mitigation.

¹²⁵ Office of Planning and Research. *Discussion Draft CEQA and Climate Change Advisory* December 2018. Available online at: http://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Advisory.pdf, accessed October 29, 2019.

¹²⁶ State of California. 2010. *State of California Sea-Level Rise Interim Guidance Document*. Available online at: http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12.SLR_Resolution/SLR-Guidance-Document.pdf, accessed on August 14, 2019.

California Department of Public Health Guidance on Integrating Public Health into Climate Action Planning

In February of 2012, the California Department of Public Health released a guidance document, *Climate Action for Health: Integrating Public Health into Climate Action Planning*.¹²⁷ This document introduces key health connections to climate change mitigation strategies, and suggestions for where these fit into a local climate action plan or general plan. The guidance document also provides a number of examples of strategies taken from actual climate action plans that integrate public health objectives, with policy efforts to improve community health and reduce GHG emissions. The information provided is advisory, voluntary, and educational. The document includes specific policy recommendations for transportation and land use planning, including incorporation of green space and tree canopy to mitigate urban heat islands, and healthy siting of housing, schools and health care facilities to avoid major air quality impacts.

California's Energy Efficiency Standards for Residential and Nonresidential Buildings

California established statewide building energy standards following legislative action. The legislation required the standards to:

- Be cost effective;
- Be based on the building life cycle; and
- Include both prescriptive and performance-based approaches.

The standards have been periodically updated as technology and design have evolved. Generally, the standards are updated every three years. As a result of AB 970, passed in the fall of 2000 in response to the state's electricity crisis, an emergency update of the Standards went into effect in June 2001.¹²⁸ The Commission then initiated an immediate follow-on proceeding to consider and adopt updated Standards that could not be completed during the emergency proceeding. The 2005 Building Energy Efficiency Standards were adopted in November 2003, took effect October 1, 2005.¹²⁹ The latest amendments were made in June 2015 and went into effect on January 1, 2017.

¹²⁷ California Department of Public Health. 2012. *Climate Action for Health: Integrating Public Health into Climate Action Planning*. Available online at: https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CCHEP-General/CDPH-2012-Climate-Action-for-Health_accessible.pdf, accessed August 14, 2019.

¹²⁸ California Legislative Information. 2000. *Assembly Bill 970*.

¹²⁹ California Energy Commission. 2005. *2005 Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. Available online at: <https://ww2.energy.ca.gov/2006publications/CEC-400-2006-015/CEC-400-2006-015.PDF>, accessed August 14, 2019.

Title 24 of the California Code of Regulations comprises the state Building Standards Code.¹³⁰ Part 6 of Title 24 is the California Energy Code, which includes the building energy efficiency standards. The standards include provisions applicable to all buildings, residential and non-residential, which describe requirements for documentation and certificates that the building meets the standards. These provisions include mandatory requirements for efficiency and design of the following types of systems, equipment, and appliances:

- Air conditioning systems
- Heat pumps
- Water chillers
- Gas- and oil-fired boilers
- Cooling equipment
- Water heaters and equipment
- Pool and spa heaters and equipment
- Gas-fired equipment including furnaces and stoves/ovens
- Windows and exterior doors
- Joints and other building structure openings (envelope)
- Insulation and cool roofs
- Lighting control devices.

The standards include additional mandatory requirements for space conditioning (cooling and heating), water heating and indoor and outdoor lighting systems and equipment in non-residential, high-rise residential, and hotel or motel buildings.

¹³⁰ California Energy Commission. 2019. *Building Energy Efficiency Standards – Title 24*. Available online at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards>, accessed August 14, 2019.

In May 2018, the California Energy Commission voted unanimously, 5-0, to recommend energy efficiency standards to be added to state building regulations later in 2018, effecting all construction after Jan. 1, 2020.¹³¹ The rules will make California the first state in the nation to require solar panels on new homes.

California Green Building Standards Code (2016), California Code of Regulations Title 24, Part 11

California's green building code, referred to as "CalGreen," was developed to provide a consistent approach to green building within the State.¹³² Taking effect in January 2016, the most recent version of the Code lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety and general welfare by promoting the use of building concepts which minimize the building's impact on the environment and promote a more sustainable design. Local jurisdictions are required to adopt the CalGreen provisions. CalGreen is complimentary with California Energy Code, Title 24, Part 6, which continues to regulate energy efficiency in buildings.

Caltrans Strategic Management Plan, 2015 - 2020

The most recent Caltrans Strategic Management Plan¹³³ redefines the Caltrans mission statement and provides a vision statement. The Caltrans mission statement is: *Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.* The Caltrans vision is: *A performance-driven, transparent, and accountable organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork.* The document identifies five goals: 1) Safety and Health, 2) Stewardship and Efficiency, 3) Sustainability, Livability and Economy, 4) System Performance, and 5) Organizational Excellence. The document identifies numerous performance measures and targets including the following target with respect to Sustainability, Livability and Economy: to increase non-auto modes (triple bicycles, double pedestrian and double transit (2010 – 12 California Household Travel survey is the baseline), achieve a 15 percent reduction in per capita VMT (3 percent per year) reported by each District relative to 2010 by 2020, 85 percent reduction in diesel

¹³¹ California Energy Commission. 2019. *2019 Building Energy Efficiency Standards*. Available online at: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed August 14, 2019.

¹³² Building Standards Commission. 2018. *CalGreen*. Available online at: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen>, accessed August 14, 2019.

¹³³ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019.

particulate matter (relative to 2000), 80 percent reduction in NO_x in the South Coast Air Basin by 2023 (from 2010).¹³⁴

*Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743*¹³⁵

Caltrans developed this guidance for Caltrans use in providing comments to local jurisdictions through the Intergovernmental Review process. This guidance document supports the implementation of the Strategic Management Plan including achieving the identified targets.

3.8.2.4 Regional and Local

SCAG Sustainability Planning Grant Program

Formerly known as the Compass Blueprint Grant Program, SCAG’s Sustainability Program works actively with Southern California communities and stakeholders to create a dynamic regional growth vision based on the principles of mobility, livability, prosperity, and sustainability. The program’s work focuses on implementing the region’s Sustainable Communities Strategy, the state-mandated plan for reducing GHG emissions from cars and light trucks through integrated transportation, land use, housing and environmental planning.¹³⁶

South Coast Air Quality Management District (SCAQMD) Policy on Global Warming and Stratospheric Ozone Depletion

SCAQMD adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.¹³⁷

¹³⁴ This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

¹³⁵ Caltrans. 2016. *Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743*

¹³⁶ Southern California Association of Governments. 2015. *Sustainability*. Available online at: <http://www.scag.ca.gov/programs/Pages/Programs/Sustainability.aspx>, accessed March 25, 2019.

¹³⁷ South Coast Air Quality Management District. 2019. *Climate Change*. Available online at: <http://www.aqmd.gov/nav/about/initiatives/climate-change>, accessed August 14, 2019.

SCAQMD Draft Guidance Regarding Interim CEQA GHG Significance Thresholds

SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency.¹³⁸ However, SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.¹³⁹

The CEQA GHG Significance Threshold Working Group met several times in 2008 to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group included various stakeholder groups from state agencies, OPR, CARB, Attorney's General Office, local agencies, city and county planning departments, utilities, industry groups, and both environmental and professional organizations. The purpose of the working group was to solicit comments from the stakeholders as SCAQMD developed interim GHG significance thresholds to achieve a 90 percent GHG emission capture rate.¹⁴⁰ The Working Group discussed methodologies for determining project significance including categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

The draft tier thresholds recommended by the SCAQMD Working Group were designed to meet reduction requirements from AB 32. Since the development of the draft tier thresholds, California passed SB 32 in order to reduce state GHG emissions to 40% below 1990 levels by 2030 (see **Section 3.8.2.3**). These recommended thresholds are over a decade old and were not designed to meet the stricter 2030 reduction requirements, as a result these thresholds are outdated and were not utilized in this analysis.

¹³⁸ South Coast Air Quality Management District. 2008. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. Available online at: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2), accessed August 14, 2019.

¹³⁹ South Coast Air Quality Management District. *Greenhouse Gases (GHG) CEQA Significance Thresholds*. Available online at: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2>, accessed March 25, 2019.

¹⁴⁰ South Coast Air Quality Management District. Accessed October 12, 2019. *Chapter 3 – Interim GHG Significance Threshold Staff Proposal*. Available at: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqasignificance-thresholds/ghgattachmente.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqasignificance-thresholds/ghgattachmente.pdf?sfvrsn=2)

Counties

Los Angeles County

The Los Angeles County Office of Sustainability¹⁴¹ was created within the Internal Services Department by the Board of Supervisors in October 2009 to respond to legislation, regulation, and policy related to Climate Change and serve as a central hub to coordinate Energy Efficiency, Conservation and Sustainability Programs within the County, its facilities, and the region. The County Office of Sustainability develops and implements programs that impact and benefit the constituents of Los Angeles County, such as the Energy Upgrade California in Los Angeles County energy efficiency home improvement and rebate program, countywide Environmental Service Centers, the SolarMap LACounty.gov and Green.LACounty.gov websites, and the Los Angeles Regional Collaborative for Climate Action and Sustainability. In addition, the County Office of Sustainability is the lead in coordinating and implementing Energy and Environmental policy programs and activities by all County departments.

As of March 2015, Los Angeles County Board of Supervisors approved the first Community Climate Action Plan (CCAP). The CCAP provides a roadmap to reduce GHGs in Los Angeles County by 11 percent by 2020. This target can be achieved through cool roofs, solar, tree canopies, and more active transportation and public transit use. The County of Los Angeles Department of Regional Planning will implement the CCAP and work to develop climate adaptation strategies beyond 2020.¹⁴²

In August 2019, the Los Angeles County Board of Supervisors adopted the OurCounty regional sustainability plan. It outlines what local governments and stakeholders can do to enhance community well-being while reducing damage to the natural environment and adapting to climate change, with a particular focus on communities disproportionately burdened by environmental pollution. OurCounty is organized around 12 goals that will guide policy toward resiliency, equity, parks, renewable energy, reducing car dependency, and more. Its most ambitious goal includes reaching complete carbon neutrality by 2050 by completely phasing out fossil fuels countywide.¹⁴³

¹⁴¹ County of Los Angeles. *LA County Chief Sustainability Office*. Available online at: <https://www.lacounty.gov/sustainability/>, accessed August 14, 2019.

¹⁴² Climate Resolve. 2015. *Approved: LA County's Community Climate Action Plan*. Available at: <http://climateresolve.org/countyclimateactionplan/>, accessed March 25, 2019.

¹⁴³ OurCounty. *The Plan*. Available online at: <https://ourcountyla.org/plan>, accessed October 2, 2019.

Orange County

In early 2010, a joint committee with equal representation from the Orange County Council of Governments (COG) and the Orange County Transportation Authority (OCTA) was formed to develop the Orange County Sustainable Communities Strategy (SCS).¹⁴⁴ The Orange County COG/OCTA SCS Joint Working Committee led overall efforts to develop a subregional Orange County SCS to meet the requirements of SB 375 and the mutual agreements with SCAG with a plan that all local jurisdictions in Orange County could support. As a result of this collaborative effort, the Orange County SCS was adopted unanimously by the OCTA and Orange County COG Boards of Directors in June of 2011. Orange County SCS utilizes the transportation system along with land use and Best Management Practices strategies to help the County to achieve the state-mandated emissions reduction targets.

Riverside County

In July 2018, Riverside County created a Climate Action Plan to establish a clear path to sustainability and GHG reduction. The Plan establishes a 2020 reduction goal of 15% to 2008 emissions in order to be consistent with AB 32.¹⁴⁵

In September 2014, Western Riverside Council of Governments (WRCOG) published the Subregional Climate Action Plan. The major goals of the Climate Action Plan are to create local jobs, promote healthier communities, achieve energy self-sufficiency, enhance social equity, reduce emissions, improve air quality, protect natural systems, and save money. WRCOG aims to reduce GHG emissions to 15 percent below 2010 levels by 2020, and 49 percent below 2010 levels by 2035.¹⁴⁶

San Bernardino County

In March 2014, San Bernardino County released the final version of the San Bernardino County Greenhouse Gas Reduction Plan and Final EIR to be certified by the SANBAG Board of Directors. The plan initiated the compilation of an updated inventory of GHG emissions across the County as well as an evaluation of measures that could be adopted on a City-level to reduce emissions. The plan is in

¹⁴⁴ OCTA/COG. 2011. *Orange County Sustainable Communities Strategy (SCS)*. Available online at: <https://www.fullerton.edu/cdr/resources/pdf/OCSCS20110614.pdf>, accessed August 14, 2019.

¹⁴⁵ Riverside County Planning Department. 2018. *Climate Action Plan*. Available online at: https://planning.rctlma.org/Portals/14/CAP/CAP_071717.pdf, accessed August 14, 2019.

¹⁴⁶ Western Riverside Council of Governments. 2014. *Subregional Climate Action Plan*. Available online at: <http://www.wrcog.cog.ca.us/DocumentCenter/View/188/Subregional-Climate-Action-Plan-CAP-PDF?bidId=> accessed March 25, 2019.

accordance with AB 32 and other regional and general plans and provides a baseline of information for jurisdictions addressing greenhouse gas emissions.¹⁴⁷

Ventura County

In April 2010, the County of Ventura General Services Agency (GSA) released an Energy Action Plan to minimize energy intensities in GSA-maintained buildings, improve operational energy and water efficiencies, reduce energy and water use, pursue LEED and Energy Star certifications, and educate GSA employees. As of April 2012, the County of Ventura released a Climate Protection Plan to reduce GHG emissions by 15 percent by 2020. The six action areas include climate protection leadership, countywide responsibility, facilities, vehicle (fleet) operations, employee commute, and expanded sustainability goals.¹⁴⁸

Imperial County

In October 2018, Imperial County announced the development of a Climate Action Plan in order to identify GHG emissions and reduction strategies in the Imperial Valley region.

Cities

In 2016, the Governor's Office of Planning and Research (OPR) prepared a list of plans and initiatives adopted by California jurisdictions, including jurisdictions in the SCAG region, to address climate change.¹⁴⁹ The list showed that about 20 percent of the local jurisdictions had either completed local climate action plans or had efforts underway. Some cities in the SCAG region have also addressed climate change and GHG policies in their planning and permitting programs. As part of its Sustainability Program, SCAG has provided funding assistance for such local GHG emissions inventory efforts and local climate action plans. Jurisdictions within the SCAG region that have undertaken plans and initiatives addressing climate change are shown in **Table 3.8-4, California Jurisdictions Addressing Climate Change in the SCAG Region (2019)**.

¹⁴⁷ San Bernardino Associated Governments. 2014. *Regional Greenhouse Gas Reduction Plan*. Available online at: <https://www.gosbcta.com/plans-projects/plans/greenhouse-gas/SBC-RegionalGreenHouseGasReduction-Final.pdf>, accessed March 25, 2019.

¹⁴⁸ County of Ventura. *Working & Living Sustainably*. Available online at: <https://cobapps.countyofventura.org/sustain/>, accessed March 25, 2019.

¹⁴⁹ Office of Planning and Research. 2016. *Announcement: The DRAFT California Jurisdictions Addressing Climate Change summary document now available for public review*. Available online at: <http://www.opr.ca.gov/news/2016/02-11.html>, accessed October 23, 2019.

Los Angeles Green New Deal

In April 2019, Mayor Eric Garcetti released a refreshed version of the City's 2015 Sustainable City Plan. The Green New Deal calls for reaching 100 percent renewable electricity by 2045, creating 300,000 green jobs by 2035, and reducing overall greenhouse gas emissions to 50 percent of 1990 levels by 2025.¹⁵⁰

¹⁵⁰ LA's Green New Deal, Sustainable City pLAn 2019. Available online at: https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf, accessed October 1, 2019.

**Table 3.8-4
California Jurisdictions Addressing Climate Change in the SCAG Region (2019)**

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Imperial	Brawley	City	City of Brawley		C	C	C				C	IP		
Imperial	Calexico	City	Climate Action Plan			P	P							
Imperial	Calipatria	City	City of Calipatria											
Imperial	El Centro	City	City of El Centro											
Imperial	Holtville	City	City of Holtville											
Imperial	Imperial	County	Imperial County											
Imperial	Imperial	City	City of Imperial											
Imperial	Westmorland	City	City of Westmorland											
Los Angeles	Agoura Hills	City	City of Agoura Hills								A	A		
Los Angeles	Alhambra	City	City of Alhambra				IP				C			
Los Angeles	Arcadia	City	Sustainable Arcadia							A	A	A	A	
Los Angeles	Artesia	City	City of Artesia											
Los Angeles	Avalon	City	City of Avalon								C			
Los Angeles	Azusa	City	City of Azusa											
Los Angeles	Baldwin Park	City	City of Baldwin Park								A			
Los Angeles	Bell	City	City of Bell											
Los Angeles	Bell Gardens	City	City of Bell Gardens											
Los Angeles	Bellflower	City	Climate Action Plan		C	P	P				A	A		
Los Angeles	Beverly Hills	City	Sustainable City Plan				P			P	A	A		
Los Angeles	Bradbury	City	General Plan Climate Action Plan		C	C	C				C			
Los Angeles	Burbank	City	General Plan			A	A			A	A	A		
Los Angeles	Calabasas	City	City of Calabasas								A	A	A	
Los Angeles	Carson	City	City of Carson		C	A	A							
Los Angeles	Cerritos	City	City of Cerritos											
Los Angeles	Claremont	City	Sustainable City Plan							A	A	A		
Los Angeles	Commerce	City	City of Commerce											
Los Angeles	Compton	City	City of Compton											

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Covina	City	Energy Climate Action Plan		C	A		A						
Los Angeles	Cudahy	City	City of Cudahy											
Los Angeles	Culver City	City	City of Culver	C						P				
Los Angeles	Diamond Bar	City	City of Diamond Bar		C		IP				P			
Los Angeles	Downey	City	Green Task Force					A						
Los Angeles	Duarte	City	City of Duarte		C			A						
Los Angeles	El Monte	City	City of El Monte		C	P								
Los Angeles	El Segundo	City	City of El Segundo		C	A	A							
Los Angeles	Gardena	City	Energy Action Plan		C	A		A						
Los Angeles	Glendale	City	Greener Glendale Plan		C	A				A				
Los Angeles	Glendora	City	City of Glendora											
Los Angeles	Hawaiian Gardens	City	City of Hawaiian Gardens											
Los Angeles	Hawthorne	City	City of Hawthorne		C		A							
Los Angeles	Hermosa Beach	City	GO GREEN/Sustainability		C	A	A			A				
Los Angeles	Hidden Hills	City	City of Hidden Hills											
Los Angeles	Huntington Park	City	City of Huntington Park											
Los Angeles	Industry	City	City of Industry											
Los Angeles	Inglewood	City	Inglewood Sustainability		C		A	A						
Los Angeles	Irwindale	City	City of Irwindale											
Los Angeles	La Canada Flintridge	City	City of La Canada Flintridge											
Los Angeles	La Habra Heights	City	City of La Habra Heights											
Los Angeles	La Mirada	City	City of La Mirada											
Los Angeles	La Puente	City	City of La Puente											
Los Angeles	La Verne	City	City of La Verne											
Los Angeles	Lakewood	City	City of Lakewood		C	A	A	A	A	A		A		
Los Angeles	Lancaster	City	City of Lancaster		A	A	A	A		A		A		
Los Angeles	Lawndale	City	City of Lawndale											
Los Angeles	Lomita	City	Greenhouse Gas Inventory Report		C		A							

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Long Beach	City	Sustainable City Plan							A				
Los Angeles	Los Angeles	City	Green LA	C		C	IP			C	A	A	A	
Los Angeles	Los Angeles	County	Community Climate Action Plan		C	A	A				A	A	A	
Los Angeles	Lynwood	City	City of Lynwood											
Los Angeles	Malibu	City	City of Malibu											
Los Angeles	Manhattan Beach	City	Climate Action Plan		C	P	P			C				
Los Angeles	Maywood	City	City of Maywood											
Los Angeles	Monrovia	City	Energy Action Plan					A						
Los Angeles	Montebello	City	City of Montebello											
Los Angeles	Monterey Park	City	Climate Action Plan		C	A	A				A			
Los Angeles	Norwalk	City	City of Norwalk											
Los Angeles	Palmdale	City	Energy Action Plan		C	A		A						
Los Angeles	Palos Verdes Estates	City	City of Palos Verdes Estates				A							
Los Angeles	Paramount	City	City of Paramount											
Los Angeles	Pasadena	City	Green City Action Plan		C	A	A			A	A	A	A	
Los Angeles	Pico Rivera	City	General Plan								C	C		
Los Angeles	Pomona	City	Green Plan		C		IP	A		A	A	A		
Los Angeles	Rancho Palos Verdes	City	City of Rancho Palos Verdes		C						A	IP		
Los Angeles	Redondo Beach	City	City of Redondo Beach				A							
Los Angeles	Rolling Hills	City	City of Rolling Hills				A							
Los Angeles	Rolling Hills Estates	City	City of Rolling Hills Estates		C	P	A						A	
Los Angeles	Rosemead	City	City of Rosemead					IP			A	A		
Los Angeles	San Dimas	City	Energy Efficiency and Cons Strategy				IP							
Los Angeles	San Fernando	City	City of San Fernando											
Los Angeles	San Gabriel	City	Sustainability Action Plan		C			A		A				
Los Angeles	San Marino	City	City of San Marino											

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Los Angeles	Santa Clarita	City	Climate Action Plan		C	A	A				A	A	A	
Los Angeles	Santa Fe Springs	City	City of Santa Fe Springs											
Los Angeles	Santa Monica	City	15x15 Climate Action Plan		C	A	A			A			A	
Los Angeles	Sierra Madre	City	General Plan		C						A	A	A	
Los Angeles	Signal Hill	City	Sustainable City Committee											
Los Angeles	South El Monte	City	City of South El Monte											
Los Angeles	South Gate	City	City of South Gate								A			
Los Angeles	South Pasadena	City	City of South Pasadena											
Los Angeles	Temple City	City	Temple City								A			
Los Angeles	Torrance	City	City of Torrance								A			
Los Angeles	Vernon	City	Green Vernon							A				
Los Angeles	Walnut	City	City of Walnut											
Los Angeles	West Covina	City	City of West Covina	C							A			
Los Angeles	West Hollywood	City	Climate Action Plan		C	A	A				A	A		
Los Angeles	Westlake Village	City	City of Westlake Village											
Los Angeles	Whittier	City	City of Whittier											
Orange	Aliso Viejo	City	Green Initiative		C	P								
Orange	Anaheim	City	Greenhouse Gas Reduction Plan		C	A								Sustainable Center and Green Power Program
Orange	Brea	City	City of Brea			P	P	A		A				
Orange	Buena Park	City	General Plan		C	A	P			P	A	A		
Orange	Costa Mesa	City	City of Costa Mesa		C									
Orange	Cypress	City	City of Cypress											
Orange	Dana Point	City	Energy Efficiency and Conservation Plan		C	A		A						
Orange	Fountain Valley	City	City of Fountain Valley											
Orange	Fullerton	City	City of Fullerton		C	A	A							

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Orange	Garden Grove	City	City of Garden Grove											
Orange	Huntington Beach	City	Energy Action Plan					A			A			
Orange	Irvine	City	Energy Action Plan		C			A						
Orange	La Habra	City	Climate Action Plan		C	A	A				A	A		
Orange	La Palma	City	City of La Palma											
Orange	Laguna Beach	City	City of Laguna Beach		C	A	A				A	A		
Orange	Laguna Hills	City	City of Laguna Hills		C									
Orange	Laguna Niguel	City	City of Laguna Niguel		C									
Orange	Laguna Woods	City	City of Laguna Woods				A		A					
Orange	Lake Forest	City	City of Lake Forest	A	C									
Orange	Los Alamitos	City	City of Los Alamitos				IP							
Orange	Mission Viejo	City	Sustainability Action Plan		C	A				A	A			
Orange	Newport Beach	City	Energy Action Plan					A						
Orange	Orange	City	General Plan								A			
Orange	Orange	County	Orange County Public Works											
Orange	Placentia	City	City of Placentia								A			
Orange	Ranch Santa Margarita	City	City of Rancho Santa Margarita											
Orange	San Clemente	City	Climate Action Plan		C	A	A			A	A	A		
Orange	San Juan Capistrano	City	GO GREEN SIC											
Orange	Santa Ana	City	Climate Action Plan		C	P	P							
Orange	Seal Beach	City	City of Seal Beach											Sea Level Rise Vulnerability assessment
Orange	Stanton	City	City of Stanton											
Orange	Tustin	City	City of Tustin											
Orange	Villa Park	City	City of Villa Park								A			
Orange	Westminster	City	City of Westminster								A			
Orange	Yorba Linda	City	City of Yorba Linda											

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
Riverside	Banning	City	City of Banning											
Riverside	Beaumont	City	Climate Action Plan		C	A	A			C				
Riverside	Blythe	City	Energy Action Plan					P						
Riverside	Calimesa	City	Climate Action Plan		C	A	A				A	A		
Riverside	Canyon Lake	City	City of Canyon Lake											
Riverside	Cathedral City	City	Climate Action Plan		C	A	A	P						
Riverside	Coachella	City	City of Coachella			A	A				A	A		
Riverside	Corona	City	Climate Action Plan		C	A	A							
Riverside	Desert Hot Springs	City	City of Desert Hot Springs				IP						A	
Riverside	Eastvale	City									A			
Riverside	Hemet	City	General Plan							A	A	A		
Riverside	Indian Wells	City	Green Building Program		C	A	A	A		A				
Riverside	Indio	City	General Plan Update			IP	IP				IP			
Riverside	Jurupa Valley	City	City of Jurupa Valley			A					A	A		
Riverside	La Quinta	City	City of La Quinta		C	P				IP				
Riverside	Lake Elsinore	City	Climate Action Plan		C	A	A						A	
Riverside	Menifee	City	City of Menifee											
Riverside	Moreno Valley	City	Energy Efficiency and Climate Strategy		C	A	A	A						
Riverside	Murrieta	City	General Plan		C	A	A				A	A		
Riverside	Norco	City	City of Norco											
Riverside	Palm Desert	City	Sustainability Plan		C	A				A	A			
Riverside	Palm Springs	City	City of Palm Springs		C	A	A	A		A				
Riverside	Perris	City	General Plan		C	A	A			A	A	A	A	
Riverside	Rancho Mirage	City	City of Rancho Mirage		C			A		A	A			
Riverside	Riverside	City	Climate Action Plan		C	P	P							
Riverside	Riverside	County	Climate Action Plan		C	IP	IP			A	A	A	A	
Riverside	San Jacinto	City	City of San Jacinto											
Riverside	Temecula	City	Sustainability Plan							P				
Riverside	Wildomar	City	City of Wildomar											

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
San Bernardino	Adelanto	City	Energy Leader Partnership			P								
San Bernardino	Apple Valley	Town	Climate Action Plan		C	A	A				A	A		
San Bernardino	Barstow	City	Greenhouse Gas Analysis	C	C									
San Bernardino	Big Bear Lake	City	Greenhouse Gas Reduction Plan		C	A								
San Bernardino	Chino	City	Climate Action Plan		C	A	A				A	A	A	
San Bernardino	Chino Hills	City	City of Chino Hills		C	A	A				A			
San Bernardino	Colton	City	City of Colton		C		A							
San Bernardino	Fontana	City	City of Fontana		C	C	IP			C	C	IP		
San Bernardino	Grand Terrace	City	City of Grand Terrace							A	A			
San Bernardino	Hesperia	City	General Plan		C	A	A							
San Bernardino	Highland	City	City of Highland											
San Bernardino	Loma Linda	City	Loma Linda General Plan				A			A	A			
San Bernardino	Montclair	City	City of Montclair											
San Bernardino	Needles	City	City of Needles											
San Bernardino	Ontario	City	City of Ontario		C	A	A				A			
San Bernardino	Rancho Cucamonga	City	Rancho Cucamonga General Plan								A	A		
San Bernardino	Redlands	City	Green Initiatives				A			A	A		A	Climate Action Task Force
San Bernardino	Rialto	City	City of Rialto								A			
San Bernardino	San Bernardino	City	County of San Bernardino			IP				IP	A	A		
San Bernardino	San Bernardino	County	Regional GHG Reduction Plan		C	A					A	A	A	
San Bernardino	Twentynine Palms	City	City of Twentynine Palms								A			

3.8 Greenhouse Gases

County	Jurisdiction	Type	Document or Website Link	Vulnerability Assessment	GHG Emissions Inventory	GHG Reduction Plan	Climate Action Plan	Energy Action Plan	Adaptation or Resilience Plan	Sustainability Plan	General Plan Policy	General Plan Implementation Measures	Codes or Ordinances	Other (Specify)
San Bernardino	Upland	City	Climate Action Plan		C	P	A				A	A		
San Bernardino	Victorville	City	City of Victorville								A			
San Bernardino	Yucaipa	City	City of Yucaipa				A				A			
San Bernardino	Yuca Valley	Town	Town of Yuca Valley								A			
Ventura	Camarillo	City	City of Camarillo											
Ventura	Fillmore	City	Energy Action Plan					A						
Ventura	Moorpark	City	City of Moorpark											
Ventura	Ojai	City	City of Ojai											
Ventura	Oxnard	City	General Plan		C	A		A		A	A	A		
Ventura	Port Hueneme	City	City of Port Hueneme											
Ventura	Santa Paula	City	Sustainability Policy							A	IP		A	
Ventura	Simi Valley	City	Climate Action Plan		C		A	A			A	A		
Ventura	Thousand Oaks	City	City of Thousand Oaks							A				
Ventura	Ventura	City												
Ventura	Ventura	County	County of Ventura		C		A							

Source: Office of Planning and Research. 2016. 2016 California Jurisdictions Addressing Climate Change Summary. Available online at: <http://www.ccpda.org/191-2016-california-jurisdictions-addressing-climate-change-summary>.

SCAG, 2019

Note: A=Adopted; C=Completed; IP=In Progress; P=Planned.

3.8.3 ENVIRONMENTAL IMPACTS

3.8.3.1 Thresholds of Significance

The impacts related to GHG emissions resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed in **Section 3.17, Transportation, Traffic and Safety**, CARB and OPR have recommended project-level VMT thresholds of significance in their guidance documents for use in evaluating traffic impacts in CEQA documents. These thresholds are intended to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO's are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for an individual project. The discussion of GHG impacts below considers the potential for the region as a whole to meet the CARB and OPR targets.

3.8.3.2 Methodology

GHG emissions and climate change were evaluated in accordance with Appendix G the 2019 *CEQA Guidelines*. GHG emissions and climate change within the SCAG region were evaluated at a programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region; a review of related literature germane to the SCAG region.

CEQA Guidelines Section 15064.4 states that, when making a determination with respect to the significance of a project's GHG emissions, a lead agency shall have discretion to determine whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; and/or (2) Rely on a qualitative analysis or performance-based standards. Section 15064.4 also states that a lead agency should consider the following factors when assessing the significance of the impact of GHG emissions on the environment: (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The methodology for determining the significance of GHG emissions includes the use of SCAG's 2019 Scenario Planning Model (SPM) and transportation modeling in order to estimate GHG emissions from energy, water, and transportation. GHG emissions and transportation data were projected to 2045 using SCAG's Regional Travel Demand Model and ARB's EMFAC2014 emissions model. Estimates of energy and water use are based on current demand factors and emission rates associated with current power generation operations and water supply.

Analysis of the potential GHG impacts of Connect SoCal was conducted based on regional-level modeling of mobile-source emissions and gross estimates of stationary source emissions. It is anticipated that increasingly stringent regulations, changes in technology combined with future conservation (as a result of increased pressure to conserve and increased prices) will result in a reduced demand for all types of energy, including mobile and stationary sources (as well as reduced demand for water and associated energy requirements). As energy providers and other sectors respond to SB 32 and CARB's 2017 Scoping Plan, emission rates associated with energy use are anticipated to decrease. However, in order to present a conservative analysis and without knowledge of future regulations, technologies or market drivers, only modest reductions in demand are assumed. While the analysis considers regulations, programs, and policies currently in place, there is substantial uncertainty in projecting emissions for future horizon years. Additionally, it is important to note that GHG impacts are generally cumulative in nature, and unlike the localized air quality impacts, they have broader (i.e., statewide, national, and global) implications. See *Center for Biology Diversity v. Dept. of Fish & Wildlife*, 62 Cal.4th 204, 220 (2015) (Characterizing the state's GHG emissions as a "cumulative problem.").

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0 Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.8.3.3 Impacts and Mitigation Measures

Impact GHG-1 **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.**

Significant and Unavoidable- Mitigation Required.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact would occur if the Plan would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. While transportation sector (specifically on road source) GHG emissions resulting from implementation of the Plan are anticipated to decrease compared to existing conditions and compared to No Project conditions, they are not anticipated to be reduced sufficiently to meet the GHG emissions reduction targets established for California (as discussed in **Impact GHG-2**). Moreover, while the Plan will meet the SB 375 GHG reduction targets set by CARB for SCAG, CARB has indicated that achievement of such regional targets is insufficient for the transportation sector to meet the state's overall GHG reduction goals. As such, GHG emissions from the Plan may have a significant impact on the environment.

Connect SoCal Projects and Strategies and Associated GHG Emissions -- Overview

Connect SoCal includes transportation projects which promote increased public transit ridership, connect public transit lines, increase active transportation opportunities and facilities, and manage traffic congestion. A complete list of SCAG's transportation projects is provided in **Appendix 2.0, Project List**. The region is anticipated to experience substantial increases in population, households, and jobs by 2045 (see **Section 2.0, Project Description**, and **Section 3.14, Population and Housing**). Connect SoCal also includes the land use strategies that seek to balance that the region's land use choices and transportation investments. This means Connect SoCal focuses new growth and development in existing urbanized settings and opportunity areas such as high-quality transit corridors (HQTAs) and incorporates strategies to increase walking, biking or other forms of active transportation, in fact 48% of housing units are expected to be within HQTAs in 2045 compared to 38% under existing conditions.

Changes in technology are anticipated to complement transportation projects and land use strategies in further reducing GHG emissions. The location-based land use strategies, street design policies, and pricing and system management policies would reduce GHG emissions. Integration of changing technologies with proposed strategies would enhance the effects of the strategies. For example, in order to support an increase in alternative fuel vehicles, SCAG's multi-tier approach includes encouraging electric vehicle (EV) charging at public fast charging locations, workplaces, and multi-family housing

(land use strategy), encouraging curbside EV charging stations and parking (street design policy), and providing rebates for charging stations and EVs (pricing and system management policy).

A complete list of emerging technologies and SCAG's associated land use, street design, and pricing and system management policies is included in the **Connect SoCal's - Emerging Technologies Technical Report**. Because of the anticipated increase in compact and higher density development, less energy (e.g., multi-family housing units are insulated by each other and, therefore, require less heating and cooling as compared to single family units) and less water (e.g., multi-family units have less landscaping requiring irrigation as compared to single-family units) is expected to be used and would contribute to the reduction in GHG emissions (see **Table 3.6-1, Residential Energy Use and Cost per Household**, and **Table 3.6-3, Building Energy Consumption – Residential and Commercial**, in **Section 3.6, Energy**).

GHG emissions result from direct and indirect sources. Direct emissions in the transportation sector derive from fuel combustion in vehicles (i.e., automobiles, trucks, trains, buses, planes, ships, and trains) and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity from stationary sources. Indirect sources include off-site emissions occurring as a result of electricity, water consumption and solid waste. On road transportation emissions include fuel consumption from passenger vehicles, heavy-duty trucks, buses, and other motor vehicles. Transportation accounts for the greatest proportion of GHG emissions on a regional and state level. As part of Connect SoCal, transportation network improvements would be included, and more compact, infill, walkable, and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, housing, employment, and travel demand. Additionally, Connect SoCal includes improvements to the active transportation network as well as passenger and rail in order to decrease fuel emissions.

Transportation Emissions

In order to assess the impacts of direct emissions as a result of Connect SoCal, the transportation emissions from on-road (light and medium duty vehicles, heavy duty vehicles, and buses) and other sources transportation (rail, aviation, and ocean-going vessels) were evaluated in **Table 3.8-5, Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region**, and **Table 3.8-6, Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region**. **Table 3.8-7, Greenhouse Gas Emissions from All On-Road Vehicles and Other Transportation Sources in the SCAG Region**, provides a summary of **Tables 3.8-5 and 3.8-6** to demonstrate that the SCAG region will decrease mobile-source GHG emissions by approximately 12 percent from 2019 to 2045.

**Table 3.8-5
Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region
(Million Metric Tons per Year)**

On-Road Vehicles	2019 (MMT/year)			2045 (Plan) (MMT/year)		
	CO ₂	CH ₄	NO ₂	CO ₂	CH ₄	NO ₂
Light and Medium Duty Vehicles	59.43	0.002	0.0009	38.08	0.001	0.0002
Heavy Duty Vehicles	15.46	0.000	0.002	24.16	0.001	0.0009
Buses	1.50	0.0010	0.00024	1.38	0.0003	0.00004
On-Road Vehicles (Subtotal) in CO₂	76.4	0.004	0.003	63.6	0.002	0.001
On-Road Vehicles (Subtotal) in CO_{2e}*	76.4	0.076	0.9	63.6	0.04	0.4
Total GHG Emissions from on-road vehicles in CO_{2e}		77.4			64.0	

Source: SCAG Modeling, 2019.

Note: CO₂ was converted to CO_{2e} based on the Global Warming Potential (GWP): <http://www.arb.ca.gov/cc/inventory/background/gwp.htm>

**Table 3.8-6
Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region
(Million Metric Tons per Year)**

Off-Road Vehicles	2019 Base Year			2045 (Plan)		
	CO ₂	CH ₄	NO ₂	CO ₂	CH ₄	NO ₂
Rail	2.16	0.00004	0.0010	3.86	0.00002	0.0005
Aviation	3.15	0.00002	0.000	1.97	0.00002	0.00001
Ocean-going Vessel	1.13	0.00003	0.0005	3.95	0.0001	0.0004
Other Transportation Sources (Subtotal) in CO₂	6.4	0.000	0.002	9.8	0.000	0.001
Other Transportation Sources (Subtotal) in CO_{2e}*	6.4	0.002	0.5	9.8	0.00	0.3
Total GHG Emissions from off-road vehicles in CO_{2e}*		6.9			10.1	

Source: SCAG Modeling, 2019

Note: CO₂ was converted to CO_{2e} based on the Global Warming Potential (GWP): <http://www.arb.ca.gov/cc/inventory/background/gwp.htm>

**Table 3.8-7
Greenhouse Gas Emissions (CO_{2e}) from All On-Road and Other Transportation Sources in the SCAG Region
(Million Metric Tons per Year)**

	2019 Base Year	2045 (Plan)
Total GHG Emissions from on-road vehicles in CO_{2e}	77.4	64.0
Total GHG Emissions from other transportation sources in CO_{2e}	6.9	10.1
All Transportation Sector (On-Road and Other Sources) in CO_{2e}	84.3	74.1
2045 Plan vs. 2016 Base Year	-12%	

Source: SCAG Modeling, 2019

Note: CO₂ was converted to CO_{2e} based on the Global Warming Potential (GWP): <http://www.arb.ca.gov/cc/inventory/background/gwp.htm>

Between 2019 and 2045, GHG emission from on-road mobile sources and other transportation sources, inclusive of light and medium duty vehicles and heavy-duty trucks, would decrease by approximately 12 percent (on road only would decrease by approximately 17 percent). The largest decreases would occur in the most populous counties -- Los Angeles, Orange, and Ventura Counties (**Table 3.8-8, Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County [CO₂]**). As shown in **Table 3.8-8**, transportation GHG emissions in Imperial and San Bernardino Counties are expected to increase between 2019 and 2045.

Table 3.8-8
Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County (CO₂e)*
Million Metric Tons per Year

	2005 Base Year	2019 PEIR Base Year	2020 No Project	2020 Plan	2030 Plan	2035 Plan	2045 No Project	2045 Plan	2019 Compared to Plan Year (2045)	2005 Compared to Plan Year (2045)
Imperial	1.4	1.44	1.39	1.48	1.47	1.5	1.88	1.92	35%	37%
Los Angeles	46.81	37.57	35.5	36.73	27.89	25.67	27.98	27.64	-26%	-41%
Orange	14.08	11.81	11.08	11.5	8.73	7.99	8.41	8.33	-29%	-41%
Riverside	11.8	10.72	10.19	10.63	9.4	9.09	10.31	10.45	-3%	-11%
San Bernardino	13.05	11.42	10.8	11.29	10.2	10.14	12.03	12.26	7%	-6%
Ventura	3.68	2.84	2.69	2.77	2.07	1.91	2.05	2.03	-29%	-45%
SCAG Total	90.82	75.8	71.66	74.41	59.86	56.28	62.64	62.62	-17%	-31%
Bus (region)	-	1.59	-	1.56	1.4	1.37	-	1.4	-12%	-
Rail (region)	-	2.48	-	2.53	2.99	3.28	-	4.01	62%	-
Aviation (Region)	-	3.16	-	3.14	2.97	2.63	-	1.97	-38%	-
OGV (Region)	-	1.30	-	1.32	1.99	2.55	-	4.09	216%	=
Total All Sectors	-	84.33	-	82.95	69.20	66.12	=	74.09	-12%	-

Note: *Light and medium duty vehicles and heavy-duty truck

Source: SCAG modeling, 2019.

Total GHG Emissions in SCAG Region

In order to get a better estimate of total GHG emissions, emissions from other major sectors (energy and water consumption) in addition to transportation are considered in the analysis below.

As previously stated, Connect SoCal focuses growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would increase active transportation options and the use of other transit modes (public

transit, carpooling), thereby reducing number of vehicle trips and trip lengths and associated emissions. The land use strategies included in the Plan would encourage higher density development in existing urban cores and opportunity areas which would encourage more multi-family and/or mixed-use projects, via vertical development, instead of the traditional single-family home development. Compact development and utilization of conservation strategies (i.e. exceed Title 24 building codes, LEED certification), would reduce energy and water consumption.

GHG emissions for building energy were calculated in SCAG's Scenario Planning Model (SPM) a factor of 11.66 pounds (lb) CO_{2e}/therm for natural gas and 0.74 CO_{2e}/kilowatt-hour (kWh) for electricity were used to estimate 2019 and 2045 emissions). Indoor and outdoor water-related energy¹⁵¹ assumed factors of 13,040 kWh/MG and 12,544 kWh/MG, respectively for 2019 and 2045. Water related energy includes the electricity used in the transport, treatment, and distribution of water. However, the analysis below does not account for changing sources of emissions that would reduce GHG emissions per kilowatt hour, nor does it account for improved technology that would reduce consumption of energy. The below analysis also does not account for reductions in water demand as a result of conservation. The analysis presented in **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO_{2e}) (Million Metric Tons per Year)** illustrates how a more compact growth pattern can reduce GHG emissions. It does not account for technological and other reductions that are anticipated to substantially reduce emissions compared to what is shown in **Table 3.8-9**.

As shown in **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO_{2e}) (Million Metric Tons per Year)**, the total GHG emissions from transportation, building and water-related energy are anticipated to decrease by 15.9 percent with Connect SoCal in 2045 compared to existing (2019) conditions. These three sectors account for approximately 70 percent of the total GHG emissions in the SCAG region. Additionally, as compared to 2045 No Project, GHG emissions from the three primary sources are anticipated to be approximately 10.8% lower under Connect SoCal. Compared to 2005, GHG emissions from the three primary sources are estimated to be 25.9% less than in 2005.

It is important to note that the Plan is not responsible for addressing sectors beyond transportation, including building energy and water-related energy consumption. In addition, even with respect to transportation sources, the Plan has no control over the fuels used by vehicles in the region or the types of vehicles used. As outlined in CARB's 2016 Mobile Source Strategy, changes to fuel type and types of vehicles are anticipated to result in additional substantial reductions in GHG from the transportation

¹⁵¹ Water related energy includes the electricity used in the transport, treatment, and distribution of water.

sector. Note that the analysis above does not include emissions from construction equipment, agricultural operations, industrial processes, wildfires, and other unique sources.

Table 3.8-9
Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources (CO₂e)
(Million Metric Tons per Year)

Area	2005 Base Year ^d	2019 Base Year	2030 Plan	2035 Plan	2045 No Project	2045 Plan	2019 vs 2045 Plan	2005 vs 2045 Plan
Transportation ^a	83.6	77.4	61.3	60.0	74.6	64	-17.3%	-23.4%
Building energy ^b	44.5	35.8	34.6	35.5	32.4	31.3	-12.6%	-30%
Water-related energy ^c	3.82	3.1	2.8	2.8	2.6	2.5	-19.4%	-34.6%
Total	131.92	116.3	98.7	98.3	109.6	97.8	-15.9%	-25.9%

Notes:

/a/ On-road and other transportation.

/b/ Includes estimates of emissions from energy used in the region but generated outside the region.

/c/ Water related estimates of energy consumption includes the electricity used in the transport, treatment, and distribution of water

/d/ 2012 RTP/SCS PEIR

The Scenario Planning Model provides estimates of energy and water consumption; it is a scenario planning tool used for developing scenarios for the Plan during the scenario planning process to compare relative differences among scenarios and does not account for emissions reductions from cleaner fuels and technologies in the future.

The estimates of GHG emissions in this table do not include the following sources: construction, solid waste, aircraft, ships/watercraft, trains, agriculture, wildfires, industrial process or other sources.

Source: SCAG Modeling, 2019.

Construction Emissions

The construction of transportation and development projects requires use of vehicles and equipment that consume fuel and emit GHGs for construction activities (worker commutes and materials transport emissions are accounted for within the on-road emissions analysis above). Earth-moving equipment is often necessary to construct new transportation and development projects. Equipment includes graders, scrapers, backhoes, jackhammers, front-end loaders, generators, water trucks, and dump trucks. Construction-related GHG emissions for each individual project are temporary and last only for the duration of construction of that project, but on a regional scale construction is an on-going source of GHG emissions. Quantification of short-term construction related GHG emissions is generally based on the size of each project, the equipment used and the construction schedule. Such detailed information is not available on a regional scale. Construction emission estimates are not reasonably foreseeable because the nature of construction activity is so variable. The 2016 RTP/SCS PEIR notes that construction emissions are relatively minor -- typically accounting for less than 0.3 percent of total regional emissions.

Industrial, Agricultural and Other Sources

It is important to note that the Plan is primarily a transportation plan with land use strategies. SCAG currently does not collect information regarding industrial, agricultural and other sources, rather these sources of emissions are addressed by air quality management districts as part of the preparation of air quality management plans. The SCAQMD's 2016 AQMP uses an integrated approach in order to reduce criteria air pollutants, toxic pollutants, and GHG emissions. A large portion of GHG and air pollutant emissions come from the transportation and energy sectors. Industrial facilities consume approximately 10% of energy in the SCAB region, therefore contributing to a significant portion of GHG emissions. The SCAQMD's 2016 AQMP proposes to modernize industrial facilities, promotes equipment electrification, and incorporating newer technologies such as smart grids and solar panels to reduce the reliance on fossil fuel without generating more emissions from electricity use.¹⁵²

Wildfires

In 2018, more than 1.8 million acres of California land burned in wildfires. The Woolsey Fire in November 2018 burned approximately 96,949 acres and 1,643 structures in Ventura and Los Angeles Counties, representing the largest fire of that year within the SCAG region.¹⁵³ At the same time, California's most destructive fire, the Camp Fire, in Butte County destroyed 18,804 structures. California's 2018 wildfires emitted approximately 45.5 MMTCO_{2e}, which represents about 11 percent of California's total GHG emissions that year.¹⁵⁴ Estimating GHG emissions from wildfires is highly unpredictable and beyond the scope of this PEIR. However, it is likely that wildfires and their associated emissions will continue to be a substantial source of emissions in future years as climate change leads to a longer and more intense fire season.¹⁵⁵

Summary

In summary, while GHG emissions are anticipated to decrease compared to existing conditions and compared to No Project conditions, based on the analysis above they are not anticipated to be reduced sufficiently to meet the GHG emissions reduction targets established for California (see Regulatory

¹⁵² SCAQMD. 2017. *Final 2016 Air Quality Management Plan*. Available online at: <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>, accessed November 4, 2019.

¹⁵³ County of Los Angeles Fire Department. 2018. *Woolsey Fire Incident Update*. Available online at: <https://www.fire.lacounty.gov/woolsey-fire-incident/>, accessed October 23, 2019.

¹⁵⁴ Next10. 2019. *California's Green Innovation Index*. Available online at: <https://www.next10.org/sites/default/files/2019-10/2019-california-green-innovation-index-final.pdf>, accessed October 23, 2019.

¹⁵⁵ Ibid.

Framework and discussion of Impact GHG-2 below), and therefore the GHG emissions resulting directly and indirectly from the Plan may result in significant and unavoidable impacts. However, as noted in the discussion above, the analyses of GHG emissions sources presented herein, even for transportation, do not fully take into account changes to fuels and technology that are expected to substantially reduce emissions compared to what is presented here. Nonetheless, this impact is considered significant requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

- SMM GHG-1:** SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs], develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs, that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions from transportation sources.
- SMM GHG-2:** SCAG shall encourage energy efficient design for buildings, through SCAG's Sustainable Communities Program potentially including strengthening local building codes for new construction and renovation to achieve a higher level of energy efficiency.
- SMM GHG-3:** SCAG shall continue working with partners including universities, utilities, regulating agencies, the private sector and NGO's, and member agencies to support deployment of electric vehicle (EV) charging in the region. SCAG shall provide resources to member agencies and supply them with available information and data so that they can better take advantage of legislation and funding for EV charging.
- SMM GHG-4:** SCAG shall continue to pursue partnerships with SCE, municipal utilities, locally operated electricity providers and CPUC to promote energy efficient development in the SCAG region, through coordinated planning and data and information sharing activities.

Project Level Mitigation Measures

- PMM-GHG-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

measures to reduce substantial adverse effects related to greenhouse gas emissions. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
 - i) Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
 - ii) Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
 - iii) Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
 - iv) Incorporate passive environmental control systems that account for the characteristics of the natural environment.
 - v) Use high-efficiency lighting and cooking devices.
 - vi) Incorporate passive solar design.
 - vii) Use high-reflectivity building materials and multiple glazing.
 - viii) Prohibit gas-powered landscape maintenance equipment.
 - ix) Install electric vehicle charging stations.
 - x) Reduce wood burning stoves or fireplaces.
 - xi) Provide bike lanes accessibility and parking at residential developments.
- b) Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the *State CEQA Guidelines*.

- c) Include off-site measures to mitigate a project's emissions.
- d) Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
 - i) Use energy and fuel-efficient vehicles and equipment;
 - ii) Deployment of zero- and/or near zero emission technologies;
 - iii) Use lighting systems that are energy efficient, such as LED technology;
 - iv) Use the minimum feasible amount of GHG-emitting construction materials;
 - v) Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - vi) Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - vii) Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - viii) Incorporate design measures to reduce water consumption;
 - ix) Use lighter-colored pavement where feasible;
 - x) Recycle construction debris to maximum extent feasible;
 - xi) Plant shade trees in or near construction projects where feasible; and
 - xii) Solicit bids that include concepts listed above.
- e) Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
 - i) Promote transit-active transportation coordinated strategies;
 - ii) Increase bicycle carrying capacity on transit and rail vehicles;

- iii) Improve or increase access to transit;
 - iv) Increase access to common goods and services, such as groceries, schools, and day care;
 - v) Incorporate affordable housing into the project;
 - vi) Incorporate the neighborhood electric vehicle network;
 - vii) Orient the project toward transit, bicycle and pedestrian facilities;
 - viii) Improve pedestrian or bicycle networks, or transit service;
 - ix) Provide traffic calming measures;
 - x) Provide bicycle parking;
 - xi) Limit or eliminate park supply;
 - xii) Unbundle parking costs;
 - xiii) Provide parking cash-out programs;
 - xiv) Implement or provide access to commute reduction program;
- f) Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
- g) Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- h) Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:
- i) Provide car-sharing, bike sharing, and ride-sharing programs;
 - ii) Provide transit passes;

- iii) Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
- iv) Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
- v) Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
- vi) Provide employee transportation coordinators at employment sites;
- vii) Provide a guaranteed ride home service to users of non-auto modes.
- i) Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
- j) Land use siting and design measures that reduce GHG emissions, including:
 - i) Developing on infill and brownfields sites;
 - ii) Building compact and mixed-use developments near transit;
 - iii) Retaining on-site mature trees and vegetation, and planting new canopy trees;
 - iv) Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
 - v) Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the difficulty in quantifying the effectiveness of the mitigation measures identified above, and SCAG's lack of authority to implement project-level mitigation measures, this PEIR finds impacts related to greenhouse gas emissions to be significant and unavoidable.

Impact GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Significant and Unavoidable – Mitigation Required.

Pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. Transportation projects and anticipated development under the Plan would be subject to complying with SB 375, SB 743, AB 32, and SB 32. SB 375 requires MPO's to meet per capita emission reductions by 2020 and 2035 as compared to the base year of 2005. AB 32 and SB 32 are statewide reduction goals aimed at reducing emissions to 1990 levels by 2020 and reducing emissions to 40% below 1990 levels by 2030, respectively. The Plan will meet the reduction goals set forth in SB 375, as discussed below. However, CARB has indicated that achievement of the SB 375 goals is insufficient for the transportation sector to meet the state's overall GHG reduction goals. In addition, without additional information as to how other sectors (energy, water-related energy and other sources of emissions) would reduce emissions to meet targets, the Plan would not be consistent with AB 32 and SB 32. As a result, the impact would be significant and unavoidable.

Compliance with SB 375

As described in the Regulatory Framework, SB 375 requires CARB to develop regional GHG emission reduction targets for cars and light-duty trucks for 2020 and 2035 (compared to 2005 emissions) for each of the state MPOs on a per capita basis. Each MPO is required to prepare an SCS as part of the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to SB 375. For SCAG, the targets are to reduce per capita GHG emissions by 8 percent below 2005 levels by 2020 and 19 percent below 2005 levels by 2035. Determining the per capita CO₂ emissions requires modeling vehicle miles traveled (VMT) by passenger vehicles and light trucks that emit CO₂ and dividing the number by the total population.

SCAG estimates that the per capita 2005 emissions from cars and light-duty trucks as 23.8 pounds of CO₂ per person per day (**Table 3.8-10, SB 375 Analysis**).

**Table 3.8-10
SB 375 Analysis**

	2005 (Baseline)	2020 (Plan)	2035 (Plan)
Resident population (per 1,000)	17,161	19,194	21,110
CO ₂ emissions (per 1,000 tons)	204.0 ^{/a/}	204.5 ^{/b/}	198.6 ^{/b/}
Per capita emissions (pounds/day)	23.8	21.3	18.8
% difference from Plan (2020) to Baseline (2005)			-8%
% difference from Plan (2035) to Baseline (2005)			-19% ^{/c/}

Note:

/a/ Based on EMFAC2007

/b/ Based on EMFAC2014 and SCAG modeling, 2019.

/c/ Includes off-model adjustments for 2035 and 2045

Source: SCAG modeling, 2019.

<http://www.scag.ca.gov/committees/CommitteeDocLibrary/jointRCPC110515fullagn.pdf>

As shown in **Table 3.8-10, SB 375 Analysis**, per capita CO₂ emissions from cars and light-duty trucks (only) are calculated at 21.3 pounds per day in 2020 with the Plan. The result of the Plan is an 8 percent decrease in per capita CO₂ emissions from 2005 to 2020. The percent decrease would achieve the 8 percent emissions reduction target by 2020 for the region set by SB 375. By 2035, Connect SoCal projects 18.8 pounds per day for per capita CO₂ emissions from cars and light-duty trucks (only). This represents an approximately 19 percent decrease in per capita CO₂ emissions from 2005 to 2035. This 19 percent decrease would achieve the 19 percent emissions reduction target set by CARB for 2035. CARB has not set per capita GHG emission reduction targets for passenger vehicles for the Plan's horizon year (2045). However, due to the projects and policies proposed by SCAG to reduce GHG emissions through transit improvements, traffic congestion management, emerging technology, and active transportation, the Plan's GHG emission reduction trajectory is expected to meet more aggressive GHG emission reductions by 2045. Additional reduction strategies are provided in the SCS and include congestion pricing, mileage-based user fees, and co-working at strategic locations.

By meeting the SB 375 targets for 2020 and 2035, as well as providing strategies and policies to further reduce per capita GHG emissions into 2045, the Plan would be in compliance with SB 375 with respect to meeting CARB targets.

SB 743 and VMT Guidance

As also discussed in **Section 3.17, Transportation, Traffic, and Safety**, in January 2019, CARB identified guidance with respect to necessary VMT reductions to meet state climate goals.¹⁵⁶ That guidance indicates that population in the state is anticipated to grow by 24 percent as compared to 2015, and that in order to meet the state’s 2050 climate goal, the increase in total cumulative statewide daily VMT should not be more than 6.5 percent as compared to 2015. This corresponds to a reduction of 14.3 percent in per capita total daily VMT as compared to 2015 (from 24.6 VMT per capita in 2015 to about 21 VMT per capita in 2050) and 16.8 percent decrease in per capita daily VMT for light-duty vehicles (from 22.2 VMT per capita in 2015 to about 18.5 VMT per capita in 2050). CARB notes that the modeling used for the Cleaner Technology and Fuels (CTF) forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model. Given that the CARB guidance is not intended to be directly compared to regional travel demand model outputs, VMT from SCAG’s model should not be compared to these guidance numbers for purposes of determining consistency with SB 743 and associated CARB guidance. However, for purposes of general comparison and information, **Table 3.8-11, Population and Daily VMT (2019 and 2045)**, presents information related to population, daily VMT and VMT per capita for the years 2019 and 2045.

**Table 3.8-11
Population and VMT (2019 and 2045)**

	2019	2045	2045 vs 2019
Total Population	19,339,700	22,507,200	14.1%
Total VMT	460,153,316	517,631,374	11.1%
VMT Per Capita Light Duty Vehicles	22.09	20.67	-6.4%
VMT Per Capita All Vehicles	23.79	22.89	-3.8%

Source: SCAG modeling, 2019.

OPR and Caltrans have also provided guidance on recommended VMT thresholds at the project level which are discussed in **Section 3.17, Transportation, Traffic, and Safety**. According to OPR, VMT is the preferred transportation impact metric in CEQA documents. OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) which provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.

¹⁵⁶ California Air Resources Board, January 2019 https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf

OPR recommends that a per capita (residential) or per employee (office) VMT that is 15% below that of existing development may be a reasonable threshold.¹⁵⁷ In addition, as discussed above, Caltrans prepared their *Strategic Management Plan 2015-2020*, which set a target of 15% reduction in per capita VMT relative to 2010 levels by 2020.¹⁵⁸

Compliance with AB 32 and SB 32

As noted in **Section 3.8.2, Regulatory Framework**, AB 32 requires the state to reduce GHG emissions to 1990 levels by 2020. SB 32 was created to further reduce GHG emissions and requires the state to reduce GHG emissions to 40 percent below 1990 levels by 2030. In order to ensure the state reaches these goals, CARB was ordered to prepare an updated Scoping Plan. In November 2017, CARB released the 2017 Scoping Plan as a framework to meet the 2030 reduction requirements. The Scoping Plan is designed to shift California's economy away from fossil fuels to more sustainable options that deliver economic growth, job development, and environmental benefits. Key programs that are part of the Scoping Plan include Cap-and-Trade regulation, the Low Carbon Fuel Standard, cleaner cars, trucks and freight travel, renewable energy, and reduce methane emissions from agricultural and other wastes.¹⁵⁹

The 2017 Scoping Plan is designed to reduce statewide GHG emissions across different economic sectors, including: energy, transportation, industry, water, waste management, agriculture, and natural and working lands. As discussed above, under the Plan, per capita mobile source GHG emissions from cars and light-duty trucks would be reduced by approximately 8 percent by 2020 and 19 percent by 2035 which meets (for 2035) the SB 375 reduction targets.

In 2045 under the Plan, GHG emissions from the three primary sources -- transportation, energy, and water-related energy are all anticipated to decrease as compared to existing conditions (see **Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources [CO₂e]**).

¹⁵⁷ Governor's Office of Planning and Research. 2018. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed November 15, 2019.

¹⁵⁸ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019. This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

¹⁵⁹ CARB. 2017. *California's 2017 Climate Change Scoping Plan*. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf, accessed August 14, 2019.

Transportation Sources -- Cars and Light-Duty Vehicles

In November of 2018, CARB released its 2018 California's Sustainable Communities and Climate Protection Act Progress Report.¹⁶⁰ The report recognizes the importance of realizing and measuring the benefits identified through the SB 375 planning work. Key findings of the report include that while positive gains have been made to improve the alignment of transportation, land use, and housing policies with state goals, the data suggest that more is necessary for climate success.

CARB indicates their regional 2035 GHG emissions reduction targets under SB 375 are not adequate to fully meet the goals of the 2017 Scoping Plan for the cars and light-duty trucks. Collectively, CARB determined that if the state's 18 MPOs' all met the SB 375 GHG cars and light-duty trucks emission reduction targets set by CARB in 2018, a 19 percent reduction in per capita VMT (from cars and light-duty trucks) would be achieved by 2035. In the target re-setting report, CARB expressed that to meet the statewide reduction goals set forth by SB 32 and the 2017 Scoping Plan, the state would need to reduce per capita GHG emissions from cars and light-duty trucks by 25 percent by 2035, resulting in a 6 percent gap between the 19 percent emissions reductions targets set for the regions (averaged for the 18 MPOs and compared to a baseline year of 2005).¹⁶¹ Therefore, even with meeting CARB's SB 375 GHG emissions reduction targets, a 6 percent gap compared to the state's 25 percent reduction need remains.

As CARB notes, "[a]n RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050."¹⁶² CARB has also noted that greater reductions in VMT will be required to make up the 6 percent gap in GHG. Further, according to the 2018 Sustainable Communities Progress Report, "California – at the state, regional, and local levels – has not yet gone far enough in making the systemic and structural changes to how we build and invest in communities that are needed to meet state climate goals." It will take collaboration among all these levels of government to identify the additional VMT reductions needed to achieve the state's climate goals because MPOs do not have the land use authority or resources to meet challenge alone.

OPR and CARB have both provided recommendations for reducing VMT reductions at the project level which could be a means to close the gap between GHG reductions achieved through SCS implementation

¹⁶⁰ CARB. 2018. *2018 Progress Report California's Sustainable Communities and Climate Protection Act*. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf, accessed October 3, 2019.

¹⁶¹ CARB. 2017. *Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*. Available online at: https://ww3.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf?ga=2.217174102.1993336916.1570127197-1229197864.1566229390, accessed October 4, 2019.

¹⁶² Ibid.

and the GHG reductions necessary to meet the state's GHG reduction goals. For example, OPR has provided a recommended threshold of 15 percent VMT reduction at the project level.¹⁶³ CARB also recommends project specific VMT reduction thresholds of 16.8 percent reduction from baseline for light-duty vehicle VMT (i.e., passenger cars and light trucks) or a 14.3 percent reduction for total VMT (i.e., all vehicles).¹⁶⁴ As GHG reductions from the transportation sector become more difficult to achieve, it is also possible that Cap-and-Trade could be a viable method of capturing transportation emissions and reducing them through market-based carbon trading.¹⁶⁵ Such an expansion of that program is speculative at the time of writing this PEIR, however.

Given the state's emphasis on VMT reduction as the only feasible way to achieve additional GHG reductions needed from cars and light-duty trucks, and in recognition of the climate change benefits that occur from reduced VMT resulting in reductions in GHGs, the projected land use pattern proposed under the Plan supports HQTAs. However, SCAG lacks the land use authority to enforce specific land uses. Implementation of the projected land use pattern under the Plan is within the purview of local agencies. As described in **Section 2.0, Project Description**, in order to incentivize implementation, SCAG has established several programs that support transit-oriented development in the region. For example: promoting congestion pricing, implementing complete streets strategies, and improving connectivity between existing transit systems.

In sum, while overall, California has hit its 2020 climate target ahead of schedule due to advances in the energy sector, the transportation sector has not seen the same gains and is still approximately 40 percent of the state's emissions. Emissions from the transportation sector have continued to rise despite increases in fuel economy and decreases in the carbon content of fuel.¹⁶⁶

¹⁶³ Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018 http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

¹⁶⁴ California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals, January 2019.

¹⁶⁵ In June 2015, fuels (gasoline, diesel, and natural gas) were covered under the Cap-and-Trade programs, which would require fuel suppliers to reduce GHG emissions by supplying low carbon fuels or purchase allowances to cover the GHG emissions produced when conventional petroleum-based fuel is burned. Therefore, a program is already in place within the Cap-and-Trade program to reduce GHG emissions from the transportation section. (See: CARB. *California's Cap and Trade Program: Fuel Facts*. Available online at: https://ww3.arb.ca.gov/cc/capandtrade/guidance/facts_fuels_under_the_cap.pdf, accessed October 23, 2019.)

¹⁶⁶ CARB. 2017. *Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*. Available online at: https://ww3.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf?ga=2.217174102.1993336916.1570127197-1229197864.1566229390, accessed October 4, 2019.

Other Emission Sources

GHG emissions from sectors other than cars and light-duty trucks are anticipated to be reduced in future years due to the implementation of statewide regulations and policy directed at reducing emissions (see **Table 3.8-8, Greenhouse Gas Emissions All On-Road and Other Transportation Sources by County (CO₂e)**). For example, emissions from agriculture and the solid waste sector may be reduced through regulatory requirements of SB 1383, which requires a 50 percent reduction in the level of statewide disposal of organic waste compared to 2014 levels by 2020 and a 75 percent reduction by 2025. SB 100, the 100 Percent Clean Energy Act of 2018 also requires that the state's electricity sector achieve carbon neutrality by 2045 with benchmark targets of 50 percent renewable energy by 2026 and 60 percent by 2030. However, while these reductions are expected, implementation of statewide regulations is beyond the scope of SCAG's authority.

The 2017 Scoping Plan recognizes that 2030 serves as a benchmark year in the state's long-term climate change goals; however, the 2017 Scoping Plan guides the state only to the 2030 goal. Moreover, given that the 2050 target of achieving an 80 percent reduction from 1990 GHG levels has not yet been codified in legislation (although established by Executive Order S-3-05), the 2017 Scoping Plan does not provide a framework to achieve emissions targets beyond 2030. Nonetheless, given the identified gap between SCAG's 19 percent reduction target and the state's 25 percent reduction target for 2030, it is anticipated that such a gap would remain when looking toward 2050.

Implementation of development projects with the Plan would be subject to Title 24 Building Code requirements, including the California Energy Code and the mandatory requirements of the CalGreen Code. Future development would also be required to undergo environmental review that would evaluate the potential for climate change impacts to occur. It is likely that in cases where climate change impacts are identified, appropriate and feasible mitigation would be applied to reduce GHG emissions including on- and off-site GHG reduction measures (e.g., low-flow water appliance, energy-efficient home appliances, landscaping limits), investments in local or regional programs to reduce GHGs (e.g., electrified school bus programs, home refurbishment rebate programs), and the purchase of carbon offsets through programs verified by third party such as the Climate Action Reserve.

Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources, provides a comparison of estimated emissions for three primary sources for the years 2005, 2019 and 2045. When 1990 data is not available, 15 percent below 2005 may be used as an estimate of 1990.¹⁶⁷ Therefore

¹⁶⁷ CARB. 2014. *First Update to the Climate Change Scoping Plan*. Available online at: https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf, accessed November 4, 2019.

estimated 1990 emissions for three primary sources of emissions in the SCAG region is 15 percent less than 131.92 MMT or 112.13. 2045 total emissions these sources are estimated at 97.8 MMT or about 13 percent less than estimated 1990 emissions. Therefore 2045 emissions for the SCAG region (as estimated by currently available emissions and consumption factors that do not take into account GHG reduction requirements) would not meet 2030 emission targets and would not be on track to meet 2050 emission targets.

Summary

The Plan has demonstrated that it will meet and exceed CARB's targets for greenhouse gas emissions from light duty passenger vehicles for 2020 and 2035, respectively. By meeting the SB 375 targets, the Plan has technically contributed its share (in the transportation sector), towards meeting the AB 32, SB 32, and the Scoping Plan targets. As discussed above, GHG impacts are generally cumulative in nature and have broader (i.e. statewide, national, and global) implications. Also, CARB has indicated that even if all MPOs meet their regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32, and the Scoping Plan. As recognized by CARB, MPO's do not have land use authority to implement additional VMT reductions. Furthermore, SCAG has no control or authority over the other key sectors (e.g., energy, industry, water, waste and agriculture) in meeting the AB 32, SB 32, and Scoping Plan targets. Assuming existing available emission factors, GHG emissions in the SCAG region are not on-track to achieve targets identified in AB 32, SB 32 and the Scoping Plan resulting in a significant and unavoidable impact. Mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM GHG -1, SMM GHG-2, SMM GHG-3, and SMM GHG-4.**

Project Level Mitigation Measures

See **PMM-GHG-1.**

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and

feasible. However, because of the regional nature of the analysis, the estimated GHG emissions from the three primary sources, the difficulty in quantifying both future emission and water and energy consumption factors and the effectiveness of the mitigation measures identified above, and SCAG's lack of authority to implement project-level mitigation measures, this PEIR finds impacts related to greenhouse gas emissions and potential conflicts with applicable plans, policies and regulations to be significant and unavoidable.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 ENVIRONMENTAL SETTING

This section of the Program Environmental Impact Report (PEIR) describes the hazards and hazardous materials in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern hazards and hazardous materials, and analyzes the significance of the potential impacts from hazards and hazardous materials that could result from development of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. **Section 3.17, Transportation, Traffic, and Safety**, also addresses emergency response and evacuation plans.

3.9.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hazards and hazardous materials are provided.

Hazard versus Risk. Workers’ health and general public health are potentially at risk whenever hazardous materials have been used or where there could be an exposure to such materials. Inherent in the setting and analyses presented in this section are the concepts of the “hazard” of these materials and the “risk” they pose to human health. Exposure to some chemical substances may harm internal organs or systems in the human body, ranging from temporary effects to permanent disability, or death. Hazardous materials that result in adverse effects are generally considered “toxic.” Other chemical materials, however, may be corrosive, or react with other substances to form other hazardous materials, but they are not considered toxic because organs or systems are not affected. Because toxic materials can result in adverse health effects, they are considered hazardous materials, but not all hazardous materials are necessarily “toxic.” For purposes of the information and analyses presented in this section, the terms hazardous substances or hazardous materials are used interchangeably and include materials that are considered toxic.

The risk to human health is determined by the probability of exposure to a hazardous material and the severity of harm such exposure would pose. That is to say, the likelihood and means of exposure, in addition to the inherent toxicity of a material, are used to determine the degree of risk to human health. For example, a high probability of exposure to a low toxicity chemical would not necessarily pose an unacceptable human health or ecological risk, whereas a low probability of exposure to a very high toxicity chemical might. Various regulatory agencies, such as the U.S. Environmental Protection

Agency (USEPA), California Environmental Protection Agency's (Cal/EPA), State Water Resources Control Board (SWRCB), Cal/EPA Department of Toxic Substances Control (DTSC), and state and federal Occupational Safety and Health Administration (OSHA) are responsible for developing and/or enforcing risk-based standards to protect the public and the environment.

Hazardous Material: The term “hazardous material” can have varying definitions depending on the regulatory programs. For the purposes of this PEIR, the term refers to both hazardous materials and hazardous wastes. The California Health and Safety Code Section 25501(n)(1)¹ defines hazardous material as follows:

Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Soil and groundwater can become contaminated by hazardous material released in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. In general, the largest and most contaminated of these sites became federal Superfund (see definition below) sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).² Sites are added to the National Priorities List (NPL) following a hazard ranking system.³ The U.S. EPA maintains a list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed as contaminated, this list is maintained in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS).⁴

¹ California Legislative Information. *ARTICLE 1. Business and Area Plan [25500-25519]*.

² U.S. Environmental Protection Agency. 2019. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*. Available online at: <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>, accessed August 19, 2019.

³ U.S. Environmental Protection Agency. 2018. *Superfund: National Priorities List (NPL)*. Available online at: <https://www.epa.gov/superfund/superfund-national-priorities-list-npl>, accessed August 19, 2019.

⁴ U.S. Environmental Protection Agency. 2019. *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)*. Available online at: https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=&dirEntryId=2785, accessed August 19, 2019.

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, is brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites.^{5,6} These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost. Senate Bill (SB) 32, adopted in 2001, establishes a locally based program to help speed the cleanup and reuse of brownfields sites.⁷

Hazardous Waste: A "hazardous waste" is a waste that poses substantial or potential threats to public health or the environment. Hazardous wastes are defined under the Resource Conservation and Recovery Act (RCRA)⁸ as exhibiting one or more of the characteristics identified below:

Toxic Substances: Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. The level depends on the substances involved and is chemical-specific. Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).

Ignitable Substances: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

Corrosive Materials: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).

⁵ U.S. Environmental Protection Agency. 2019. *Brownfields and Land Revitalization Activities Near You*. Available online at: <https://www.epa.gov/brownfields/brownfields-and-land-revitalization-activities-near-you>, accessed August 19, 2019.

⁶ Department of Toxic Substances Control. 2019. *Site Mitigation & Restoration Program*. Available online at: <https://dtsc.ca.gov/brownfields/>, accessed August 19, 2019.

⁷ California Legislative Information. 2001. *Senate Bill No. 32*.

⁸ U.S. Environmental Protection Agency. 2019. *Resource Conservation and Recovery Act (RCRA) Laws and Regulations*. Available online at: <https://www.epa.gov/rcra>, accessed August 19, 2019.

Certified Unified Program Agencies: California Unified Program Agencies (CUPA) implement the hazardous waste and material standard including petroleum storage, areas plans for hazardous material emergencies, California Accidental Release Prevention (CalARP) Program, hazardous materials release response plans and inventories, hazardous material management plan and inventory statements, onsite waste treatment program, and underground storage tank program.⁹ The CalARP program was implemented on 1997 to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handled regulated substance above a threshold to develop a risk management plan with safety information, operating procedures, and training requirements, compliance audits, and other incident investigation measures to reduce accidental release potential.¹⁰

Contaminated Sites: A site at which hazardous substances occur at concentration above background levels and where assessment indicates it poses, or is likely to pose, an immediate or long-term hazard to human health or the environment. DTSC maintains a database of properties in California where hazardous substances were released, see **Section 3.9.1.2, Properties Included on a List of Hazardous Materials Sites Pursuant to Government Code Section 65962.5.**

Federal Emergency Management Agency (FEMA): FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror, see **Section 3.9.2.1, Federal Regulations.**¹¹

Reactive Materials: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Radioactive Materials: Materials that emit radiation resulting from changes in the nuclei of atoms of the element.

⁹ California Environmental Protection Agency. 2019. *More about the Unified Program*. Available online at: <https://calepa.ca.gov/cupa/about/>, accessed August 19, 2019.

¹⁰ California Office of Emergency Services. 2019. *California Accidental Release Prevention*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/california-accidental-release-prevention>, accessed August 19, 2019.

¹¹ FEMA. *About the Agency*. Available online at: <https://www.fema.gov/about-agency>, accessed September 5, 2019.

By definition, EPA determined that some specific wastes are hazardous when they exhibit the characteristics of ignitability, reactivity, corrosivity, and toxicity. Once a site is determined hazardous, CERCLA provides a mechanism and assign liabilities for cleanup of the sites. The actions may involve short-term measures taken to address releases, long-term actions to permanently and significantly reduce the risk of release of hazardous substances, and a preliminary assessment/site inspection then a remedial investigation/feasibility study.

Spill Cleanup Site: Facilities with aboveground oil storage facilities greater than 1,320 gallons of oil and/or with total aggregate capacity of completely buried storage tanks greater than 42,000 gallons of oil are subjected to Spill Prevention Control and Countermeasure (SPCC) rules. These facilities need to be regulated to prevent discharge of oil into navigable waters or adjoining shorelines. Owners of a facility develop a response plan to prepare and respond to oil discharge or threats of discharge during drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil. The U.S. EPA is the lead federal response agency for providing cleanup of oil spills to prevent, prepare for, and respond to spills that occur in and around inland waters of the U.S.¹²

State Response System: The State of California's response system is represented by the Department of Fish and Wildlife (CDFW), Office of Oil Spill Prevention and Response (OSPR), local government, and the U.S. Coast Guard. Section 8670.7 of the California Government Code establishes that the Administrator of OSPR has the primary state authority to direct removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the state.¹³

Superfund Sites: Superfund sites generally refer to contaminated sites that have been designated by EPA on the National Priorities List (NPL) that are eligible for funding from the trust fund (the "Superfund") established by EPA for cleaning up abandoned or uncontrolled hazardous waste sites pursuant to CERCLA. CERCLA was enacted in the wake of the discovery of toxic waste dumps such as Love Canal and Times Beach in the 1970s. It allows the U.S. EPA to clean up such sites and to compel responsible parties to perform cleanups or reimburse the government for EPA-led cleanups.

¹² U.S. Environmental Protection Agency. 2010. *Spill Prevention, Control, and Countermeasure (SPCC) Regulation*. Available online at: <https://www.epa.gov/sites/production/files/documents/spccbluebroch.pdf>, accessed August 19, 2019.

¹³ California Legislative Information. 1990. *ARTICLE 10. Environmental Enhancement Fun [8670.70-8670.73]*.

Voluntary Cleanup Program (VCP): The VCP is a program administered by DTSC, and was introduced as a streamlined program to protect human health, clean up the environment and get property back to productive use. Corporations, real estate developers, local and state agencies entering into Voluntary Cleanup Program agreements are able to restore properties quickly and efficiently, rather than having their projects compete for DTSC's limited resources with other low-priority hazardous waste sites. State voluntary cleanup programs have played a major role in cleaning up brownfields since the 1990s. Through a nonbinding memorandum of agreement, the U.S. EPA partnered with the state to provide resource and coordination of Superfund sites to meet Resource Conservation and Recovery Act (RCRA) liabilities and provide corrective actions to provide "one cleanup" approaches. Selection of sites eligible for VCPs are provided under EPA's March 2003 guidance that exclude sites from "eligible response site" when not meeting regional determinations under Section 101(41)(C)(i) of CERCLA.¹⁴

Asbestos Containing Materials (ACMs). Asbestos is a naturally occurring fibrous material that was widely used in structures built between 1945 and 1978 for its fireproofing and insulating properties. ACMs were banned by USEPA between the early 1970s and 1991 under the authority of the federal CAA and TSCA as exposure to ACMs increases the risk of developing lung disease and cancers. Common ACMs include vinyl flooring and associated mastic, wallboard and associate joint compound, plaster, stucco, acoustic ceiling spray, ceiling tiles, heating system components, and roofing materials. Commercial/industrial structures are affected by asbestos regulations if damage occurs or if remodeling, renovation, or demolition activities disturb ACMs. Since many of the structures within the SCAG Region were constructed before 1978, there is a potential for the presence of ACMs to exist in a wide variety of building materials within the SCAG Region.

Lead and Lead-Based Paint (LBP). Lead is a naturally occurring metallic element. Because of its toxic properties, lead is regulated as a hazardous material. Excessive exposure to lead can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems, because it is easily absorbed into developing systems and organs. Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils around buildings and structures painted with LBP. LBP was primarily used during the same time period as ACMs. Commercial/industrial structures are affected by lead-based paint regulations if the paint is in a deteriorated condition or if remodeling, renovation, or demolition activities disturb LBP surfaces. Since many of the structures within the SCAG Region were constructed before

¹⁴ California Environmental Protection Agency. *Guidance on Regional Determination Regarding Eligible Response Sites*. Available at: <http://www2.epa.gov/enforcement/guidance-regional-determinations-regarding-eligible-response-sites>, accessed September 11, 2015.

1978, there is potential for structures in the SCAG region to contain paints and coatings with detectable or elevated concentrations of lead.

Polychlorinated Biphenyls (PCBs). PCBs are mixtures of up to 209 individual chlorinated compounds. There are no known natural sources of PCBs. PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they do not burn easily and are good insulators. The manufacture of PCBs was stopped in the United States in 1977 because of evidence that they build up in the environment and can cause cancers and other harmful health effects, including to the immune system, reproductive system, nervous system, and endocrine system. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

3.9.1.2 Properties Included on a List of Hazardous Materials Sites Pursuant to Government Code Section 65962.5

The DTSC maintained a database, known as CalSites, which contained information on properties in California where hazardous substances were released, or where the potential for a release existed.¹⁵ In 2006, DTSC launched its brownfields site database, EnviroStor, which replaced the CalSites database. EnviroStor includes identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites (**Table 3.9-1, Number of Cleanup Sites by County**).¹⁶ The DTSC also tracks and monitors hazardous materials through the HazNet list and Cortese List, while the Cal EPA, State Water Resources Control Board (SWRCB), and the California Integrated Waste Management Board monitor potential solid waste hazards, Leaking Underground Storage Tanks, and potential clean-up sites.

¹⁵ U.S. Environmental Protection Agency. 201. *CalSites, Annual Work Plan (AWP), CA Department of Toxic Substance Control (DTSC)*. Available online at: https://cfpub.epa.gov/si/si_public_record_Report.cfm?Lab=ORD&dirEntryID=142416, accessed August 19, 2019.

¹⁶ Department of Toxic Substances Control. *EnviroStor*. Available online at: <https://www.envirostor.dtsc.ca.gov/public/>, accessed August 19, 2019.

**Table 3.9-1
Number of Cleanup Sites by County**

County	Federal Superfund (NPL)	School Cleanup	State Response	Voluntary Cleanup
Imperial	1	1	15	11
Los Angeles	18	149	165	370
Orange	4	14	48	62
Riverside	3	16	27	35
San Bernardino	5	23	34	47
Ventura	2	5	14	27
Total	33	208	303	552

Source: Department of Toxic Substances Control (DTSC). 2019. Envirostor. Available online at: <https://www.envirostor.dtsc.ca.gov/public/search?basic=True>, accessed February 8, 2019.

3.9.1.3 Underground Storage Tanks (USTs)¹⁷

A UST system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. When the UST program began, there were approximately 2.1 million regulated tanks in the United States. Today, there are far fewer regulated tanks, since many substandard UST systems have been closed. Nearly all USTs at these sites contain petroleum. These sites include marketers who sell gasoline to the public (such as service stations and convenience stores) and nonmarketers who use tanks solely for their own needs (such as fleet service operators and local governments). The U.S. EPA estimates about 10,000 tanks hold hazardous substances covered by the UST regulations.

The greatest potential hazard from a leaking underground storage tank (LUST) is that the petroleum or other hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans (although not such a high percentage in the SCAG region). A LUST can present other health and environmental risks, including the potential for fire and explosion. Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment. There are nearly 15,000

¹⁷ U.S. Environmental Protection Agency. 2018. *Underground Storage Tanks (USTs)*. Available online at: <http://www.epa.gov/OUST/overview.htm>, accessed February 8, 2019.

LUSTs in the SCAG region, with over half in Los Angeles County, and the least number, by an order of magnitude, in Imperial County (Table 3.9-2, Leaking Underground Storage Tank Cleanup Sites).

**Table 3.9-2
Leaking Underground Storage Tank Cleanup Sites**

County	Leaking Underground Storage Tank (LUST)
Imperial	235
Los Angeles	7,528
Orange	3,020
Riverside	1,364
San Bernardino	1,083
Ventura	1,407

Source:

Cal EPA, State Water Resources Control Board. 2019. Geotracker. Available online at: http://geotracker.waterboards.ca.gov/sites_by_county.asp, accessed September 3, 2019.

3.9.1.4 Routine Transport, Use, or Disposal of Hazardous Materials

There are several risks associated with the transportation-related use of hazardous materials in the SCAG region. Actual transport of hazardous materials via truck, rail, and other modes involves a degree of risk of accident and release. The use of hazardous materials and the generation of hazardous waste in the construction and maintenance of the transportation system are other avenues for risk or exposure. Finally, the past disposal of hazardous materials in a manner that creates residual contamination of soil or water can be a source of risk when such sites are disturbed in the course of future transportation projects or associated development. Each of these avenues is discussed below.

Hazardous materials move through the SCAG region by a variety of modes: truck, rail, air, ship, and pipeline. According to the Office of Hazardous Materials Safety (OHMS) in the U.S. Department of Transportation (U.S. DOT), hazardous materials shipments can be regarded as equivalent to deliveries, but any given shipment may involve one or more movements, or trip segments, that may occur by different modes. For instance, a shipment might involve initial pickup by truck (one movement), a transfer to rail (a second movement), and a final delivery by truck again (for a total of three movements). Each movement of hazardous materials implies a degree of risk, depending on the material being moved, the mode of transport, and numerous other factors.¹⁸

¹⁸ U.S. Department of Transportation. *Office of Hazardous Material Safety*. Available online at: <https://www.phmsa.dot.gov/about-phmsa/offices/office-hazardous-materials-safety>, accessed August 19, 2019.

There are 20 hazardous material treatment storage and disposal facilities in the SCAG region (**Table 3.9-3, Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region**).

3.9.1.5 Release of Hazardous Materials in the Environment

Hazardous materials may be released into the environment in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming the recipients of authorized and unauthorized hazardous materials. In general, the largest and most contaminated of these sites became federal Superfund sites in the early 1980s, so named for their eligibility to receive cleanup money from a federal fund established for that purpose under CERCLA. Sites are added to the NPL following a hazard ranking system. The U.S. EPA maintains this list of federal Superfund sites, as well as a more extensive list of all sites with potential to be listed known as CERCLIS. 16 of the 29 superfund sites on the National Priorities List in the SCAG region were in the process of being cleaned up during the period of preparation of this PEIR.¹⁹

- Barstow Marine Corps Logistics Base, Barstow
- Cooper Drum Co., South Gate
- Del Amo Hazardous Waste Site, Torrance
- George Airforce Base, Victorville
- Halaco Engineering Company, Oxnard
- Jet Propulsion Lab (NASA), Pasadena
- March Air Force Base, Riverside
- Montrose Chemical Corp, Torrance
- Newmark Ground Contamination, San Bernardino
- Omega Chemical Corporation, Whittier
- Palos Verdes Shelf
- Pemaco, Maywood
- Rockets, Fireworks, and Flares Site, Rialto
- San Fernando Valley, Areas 1,2, and 4, County of Los Angeles
- San Gabriel Valley (Areas 2, 4): Baldwin Park
- Stringfellow, Glen Avon Heights

¹⁹ U.S. EPA. National Priorities List (NPL) Sites – by State. Available online at: <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#CA>, accessed July 29, 2019.

**Table 3.9-3
Hazardous Material Treatment Storage and Disposal Facilities in the SCAG Region**

Facility Name	Handler ID	Address (click for map)	Contact	Operator
Clean Harbors Los Angeles, LLC	CAD050806850	5756 Alba Street Los Angeles, CA 90058	Contact: Roger R Fox, 3232772528	Operator: Clean Harbors Los Angeles, LLC
Clean Harbors Westmorland, LLC	CAD000633164	5295 S Garvey Rd Westmorland, CA 92281	Contact: Andrew M Yadvish, 7603449400 Ext. 4004	Operator: Clean Harbors Westmorland LLC
Crosby & Overton	CAD028409019	1610 West 17th Street Long Beach, CA 90813	Contact: Michael A Shloub, 5624325445 Ext. 228	Operator: Crosby And Overton INC
Demunno / Kerdoon	CAT080013352	2000 North Alameda Street Compton, CA 90222	Contact: Bonnie Booth, 3105377100 Ext. 224	Operator: Demunno / Kerdoon
DK Environmental	CAT080033681	3650 East 26th Street Los Angeles, CA 90023	Contact: Rosemary Domino, 3232685056 Ext. 108	Operator: DK Environmental
Filter Recycling Services, Inc.	CAD982444481	180 West Monte Avenue Rialto, CA 92376	Contact: Wade K Riddering, 9098734141	Operator: Filter Recycling Services, Inc.
GCE Industries, Inc	CAD981377492	1891 Nirvana Ave Chula Vista, CA 91911	Contact: Charles W Ball, 6194211151 Ext. 254	Operator: GCE Industries, Inc
Heraeus Metal Processing, Inc.	CAD060398229	13429 Alondra Blvd. Santa Fe Springs, CA 90670	Contact: Peter Eckert, 5624831830	Operator: Heraeus Metal Processing, Inc.
Lighting Resources Inc	CAL000827758	805 Francis St Ontario, CA 91761	Contact: Dan P Gillespie, 9099237252 Ext. 14	Operator: Dan Gillespie
Onyx Environmental Services, L.L.C.	CAD008302903	1704 W First St Azusa, CA 91702	Contact: Javed Hussain, 6268152220	Operator: Onyx Environmental Services
Pacific Resource Recovery Services	CAD008252405	3150 East Pico Blvd. Los Angeles, CA 90023	Contact: Mark Russell, 3232618114 Ext. 343	Operator: Pacific Resource Recovery
Phibro-Tech, Inc.	CAD008488025	8851 Dice Road Santa Fe Springs, CA 90670	Contact: Marty Voss, 5626988036 Ext. 120	Operator: Phibro-Tech, Inc.
Quemetco, Inc.	CAD066233966	720 S. 7th Avenue City of Industry, CA 91746	Contact: Neal I Lyon, 6263302294 Ext. 242	Operator: Quemetco, Inc.
Raytheon Co Space And Airborne Systems	CAD000633230	2000 E El Segundo Blvd El Segundo, CA 90245	Contact: Dean D Richardson, 3103347385	Operator: Raytheon Co

3.9 Hazards and Hazardous Materials

Facility Name	Handler ID	Address (click for map)	Contact	Operator
RHO-Chem Corp	CAD008364432	425 Isis Avenue Inglewood, CA 90301	Contact: Hector U Sanchez, 3237766233 Ext. 204	Operator: Philip Services Corporation
Safety-Kleen Systems Inc	CAT000613976	2120 South Yale Santa Ana, CA 92704	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613927	7979 Palm Ave Unit A Highland, CA 92346	Contact: Nahid Toossi, 7144294355	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613893	10625 Hickson St Unit A El Monte, CA 91731	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc
Safety-Kleen Systems Inc	CAT000613935	2918 Worthen Ave Los Angeles, CA 90039	Contact: John Matthews, 6264010106	Operator: Safety-Kleen Systems Inc
Teris Wilmington	CAD044429835	1737 E Denni St Wilmington, CA 90744	Contact: Joe L Christopher, 3108359998 Ext. 499	Operator: Teris LLC
USFilter Recovery Services	CAD097030993	5375 South Boyle Avenue Vernon, CA 90058	Contact: Ingun Littorin, 3232771518 Ext. 1518	Operator: USFilter Recovery Services

Source:

TSD & Recycling State Resource Locator. Available online at: <https://www.envcap.org/tsdf/srl.php?srl=18&state=CA>, accessed February 8, 2019.

Numerous smaller properties also have been designated as contaminated sites. Often, these are gas station sites, where leaking underground storage tanks were upgraded under a federal requirement in the late 1980s. Another category of sites, which may have some overlap with the types already mentioned, are brownfields sites. Brownfields sites are those areas that were previously used for industrial purposes or certain commercial uses. The land may be contaminated by low concentrations of hazardous waste or pollution, and has the potential to be reused once it is cleaned up. Both the U.S. EPA and DTSC maintain lists of known brownfield sites. These sites are often difficult to inventory due to their owners' reluctance to publicly label their property as potentially contaminated. In California, numerous regulatory barriers have blocked effective reuse of brownfields sites, including uncertainty as to cleanup levels and ultimate cleanup cost.

Radioactive Materials

San Onofre Nuclear Generating Station

Although there are no nuclear power stations within the SCAG region, the retired San Onofre Nuclear Generating Station (SONGS) is located just south of Orange County near San Clemente, in the northwestern corner of San Diego County and is jointly owned by SCE, San Diego Gas & Electric, and the City of Riverside.²⁰ SONGS went offline in January 2012 and was ordered by the Nuclear Regulatory Commission to stay offline while tubing wear issues were investigated. Subsequently, plant owners announced in June 2013 that remaining Units 2 and 3 would be permanently retired. Since the decision to retire the facility, SCE has initiated the process of providing for final repository of radioactive materials from SONGS. Spent fuel storage from SONGS poses a risk to the SCAG region if cracks develop in the thin steel canisters that will store the waste, and radioactive waste material is released into the environment. In 2015, SCE provided an update to the public, stating that all nuclear fuel would be transferred into dry cask storage and will remain on-site until the federal government develops a program to dispose of the waste.²¹ On October 17, 2019 the California Coastal Commission approved a coastal development permit allowing dismantlement of plant structures and decontamination of the site.²²

²⁰ California Energy Commission. 2019. *Nuclear Energy in California*. Available online at: <http://www.energy.ca.gov/nuclear/california.html>, accessed January, 10, 2019.

²¹ Southern California Edison. 2019. *Continued Safe Storage of Nuclear Fuel*. Available online at: <http://www.songscommunity.com/nuclear-fuel-storage.asp>, accessed January 10, 2019.

²² Southern California Edison, 2019. Crucial Milestone Achieved for Decommissioning, <https://www.songscommunity.com/news/releases/crucial-milestone-achieved-for-decommissioning-san-onofre-nuclear-plant>, accessed November 2, 2019.

Hazardous Emissions within One-Quarter Mile of a School Site

As described in **Section 4.15.3, Public Services-Schools**, there are nearly 5,000 public and private schools in the SCAG region ranging from K–12 through the California State University and University of California university systems. Over half of the K–12 schools and community colleges are located in Los Angeles County, and the least number of the K–12 schools and community colleges are located in Imperial County, with comparable statistics for private schools, with Los Angeles County having 42 percent of the private K–12 schools. The California Education Code 17213(b)²³ has minimum standards to minimize the potential for hazardous emissions within one-quarter mile of a school site:

- The property line of the school site, even if it is operated pursuant to a joint use agreement, shall be sited as specified distances from the edge of respective power line easements:
 - 1,100 feet for 50-133 kV line
 - 2,150 feet for 220-230 kV line
 - 3,350 feet for 500-550 kV line
- If the proposed site is within 1,500 feet of a railroad track easement, a safety study shall be done by a competent professional trained in assessing cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossings, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, preparation of an evacuation plan. In addition to the analysis, possible and reasonable mitigation measures must be identified.
- The site shall not be located near an above-ground water or fuel storage tank or within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional, which may include certification from a local public utility commission.
- Existing or proposed zoning of the surrounding properties shall be compatible with schools in that it would not pose a potential health or safety risk to students or staff in accordance with Education Code Section 17213 and Government Code Section 65402 and available studies of traffic surrounding the site.
- The district is required to consider environmental factor of light, wind, noise, aesthetics, and air pollution in its site selection process.

²³ California Legislative Information. 1996. *ARTICLE 1. General Provisions [17210-17224]*.

- If the proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the Department of Toxic Substance Control for a determination of whether the property should be considered a Hazardous Waste Property or Border Zone Property.

Properties Located within Two Miles of a Public, Public Use, or Private Airport

There are 57 public and private airports in the SCAG region, including 12 major airports (**Figure 3.9-1, Airports in the SCAG Region**).²⁴

Goods Movement

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move in myriad ways and through complex systems, often using multiple modes of transportation (e.g., ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Goods movement supports industries and activities that provide jobs, tax revenue, and resources that bolster innovation, creativity, and access to local and world markets through trade. This movement depends directly on the infrastructure that comprises the transportation network such as highways, rail lines, ports, and networks of warehousing and other distribution facilities. Maintaining and improving existing infrastructure, and expanding infrastructure capacity where appropriate, is key to ensuring the competitiveness of a growing economy. However, goods movement also has negative impacts and externalities. Growing trade and increased volumes of goods moving across the transportation system have contributed to greater congestion, safety concerns, harmful emissions of dangerous pollutants, wear-and-tear on roadways and impacts on local neighborhoods. As the Metropolitan Planning Organization (MPO) for the region, SCAG has adopted a vision for the region's goods movement system.

Federal law (23 U.S.C. §§ 134-135) mandates that MPOs encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas. Specifically, MPOs should consider projects and strategies that will increase the

²⁴ U.S. Federal Aviation Administration. 2019. *Airport Data and Contact Information*. Available online at: http://www.faa.gov/airports/airport_safety/airportdata_5010/, accessed January 10, 2019.

accessibility and mobility of people and for freight and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.²⁵

At the state level, MPOS are required to perform regional transportation planning to prepare and provide for the region's mobility in a fiscally and environmentally responsible manner, consistent with the needs, preferences, and sensibilities of the community. This coincides with California Government Code 65041.1 (Cal Civ. Code § 65041.1) and identifies planning considerations for freight that are consistent with federal requirements.

Emergency Response Plan / Emergency Evacuation Plan

California updated its State of California Multi-Hazard Mitigation Plan in 2018.²⁶ The state is required to adopt a federally approved State Multi-Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The State Multi-Hazard Mitigation Plan is an evaluation of the hazards California faces and the strategies, goals, and activities the state will pursue to address these hazards. It:

- Documents statewide hazard mitigation planning in California,
- Describes strategies and priorities for future mitigation activities,
- Facilitates the integration of local and tribal hazard mitigation planning activities into statewide efforts, and
- Meets state and federal statutory and regulatory requirements.

All six SCAG counties and a number of cities within the SCAG region have completed Hazard Mitigation Plans, although Ventura County is currently in the process of updating its documents. California Emergency Management Agency (Cal EMA) dictates that these plans must be updated every three years.²⁷ See **Section 3.20, Wildlife**, for an additional discussion of emergency response plans and emergency evacuation plans.

²⁵ United State Code. 2019. *§134. Metropolitan transportation planning*. Available online at: https://www.govregs.com/uscode/title23_chapter1_section134, accessed September 16, 2019.

²⁶ California Governor's Office of Emergency Services. 2019. State Hazard Mitigation Plan. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan>, accessed July 29, 2019.

²⁷ California Emergency Management Agency. 2019. *Local Hazard Mitigation Program*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/local-hazard-mitigation-program>, accessed July 11, 2019.

3.9.2 REGULATORY FRAMEWORK

3.9.2.1 Federal

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act (29 Code of Federal Regulations [CFR] Parts 70 to 2400), which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in 29 CFR Section 1910 et seq., are designed to promote worker safety, worker training, and a worker's right-to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.²⁸

Hazardous Materials Transportation Act of 1975

The Hazardous Materials Transportation Act (Title 49 U.S. Code [USC] Sections 5101–5127) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to “protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce” under the authority of the U.S. Secretary of Transportation.

Regulations implementing the Hazardous Materials Transportation Act of 1975 specify additional requirements and regulations with respect to the transport of hazardous materials. For example, the Act requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity specific requirements.²⁹

Hazardous Materials Transportation Act (HMTA)

Enacted in 1975, the HMTA (49 USC 51, Sections 5101 et seq.) is the principal federal law regulating the transportation of hazardous materials. Its purpose is to “protect against the risks to life, property, and the

²⁸ U.S. Department of Labor. *Regulations (Standards – 29 CFR)*. Available online at: <https://www.osha.gov/laws-regs/regulations/standardnumber>, accessed August 19, 2019.

²⁹ U.S. Environmental Protection Agency. *Hazardous Materials Transportation Act*. Available online at: <https://archive.epa.gov/emergencies/content/lawsregs/web/html/hmtaover.html#provisions>, accessed August 19, 2019.

environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce” under the authority of the U.S. Secretary of Transportation.³⁰

Response Conservation and Recovery Act (RCRA)

The RCRA of 1976 (42 USC 2) was the first major federal act regulating the potential health and environmental problems associated with hazardous and nonhazardous solid waste. RCRA and the implementation regulations developed by the U.S. EPA provide the general framework for the national hazardous and nonhazardous waste management systems. This framework includes the determination of whether hazardous wastes are being generated, techniques for tracking wastes to eventual disposal, and the design and permitting of hazardous waste management facilities.³¹

RCRA amendments enacted in 1984 and 1986 began the process of eliminating land disposal as the principal hazardous waste disposal method. Hazardous waste regulations promulgated in 1991 address site selection, design, construction, operation, monitoring, corrective action, and closure of disposal facilities. Additional regulations addressing solid waste issues are contained in 40 CFR, Part 258.³²

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA (1980; 42 USC Sections 1906 et seq.), also known as the Superfund Act, outlines the potential liability related to the cleanup of hazardous substances; available defenses to such liability; appropriate inquiry into site status under Superfund, which is the federal government’s program to clean up the nation’s uncontrolled hazardous waste sites; statutory definitions of hazardous substances and petroleum products; and the petroleum product exclusion under CERCLA. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also establishes the National Contingency Plan (NCP), which provides guidelines and procedures necessary to respond to releases and threatened releases of hazardous

³⁰ 49 USC 5101. Available online at: <https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title49-section5101&num=0&edition=prelim>, accessed August 19, 2019.

³¹ U.S. Environmental Protection Agency. 2019. *Summary of the Resource Conservation and Recovery Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>, accessed August 19, 2019.

³² Electronic Code of Federal Regulations. *Part 258- Criteria for Municipal Solid Waste Landfills*. Available online at: <https://www.ecfr.gov/cgi-bin/text-idx?SID=6015fe03e8fe343109548a041a62130c&mc=true&node=pt40.27.258&rgn=div5>, accessed August 19, 2019.

substances.³³ The SCAG region lies within U.S. Environmental Protection Agency (EPA) Region 9, which has the responsibility for designation and oversight of Superfund sites on the National Priorities List. There are 33 Superfund sites on the National Priorities List in the SCAG region.³⁴

Emergency Planning and Community Right-to-Know Act (EPCRA)

The EPCRA of 1986 (42 USC 116, Sections 9601 et seq.) was created to help communities plan for emergencies involving hazardous substances. EPCRA requires hazardous chemical emergency planning by federal, state, and local governments; Native American tribes; and industry. It also requires industry to report on the storage, use, and releases of hazardous chemicals to federal, state, and local governments.³⁵

Superfund Amendment and Reauthorization Act (SARA), Title III

SARA, Title III, of 1986 is the Emergency Planning and Community Right-to-Know Act (40 CFR Parts 350– 372). Facilities are required to report the following items on U.S. EPA Form R, the Toxic Chemical Release Inventory Reporting Form: facility identification, off-site locations where toxic chemicals are transferred in wastes, chemical-specific information, and supplemental information.

Form R requires a facility to list the hazardous substances that are handled on-site and to account for the total aggregate releases of listed toxic chemicals for the calendar year. Releases to the environment include emissions to the air, discharges to surface water, and on-site releases to land and underground injection wells.³⁶

Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, and Related Authorities

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), signed into law on November 23, 1988, amended the Disaster Relief Act of 1974 (Public Law 93-288). The Stafford Act

³³ U.S. Environmental Protection Agency. 2018. *Superfund: CERCLA Overview*. Available online at: <https://www.epa.gov/superfund/superfund-cercla-overview>, accessed August 19, 2019.

³⁴ U.S. Environmental Protection Agency. Pacific Southwest, Region 9. *Map of Superfund Sites in Southern California*. Available online at: <https://www.epa.gov/superfund/search-superfund-sites-where-you-live#map>, accessed January 10, 2019.

³⁵ U.S. Environmental Protection Agency. 2019. *Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)*. Available online at: <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>, accessed August 19, 2019.

³⁶ U.S. Environmental Protection Agency. 1987. *Title III Section 313 Release Reporting Requirements*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/9100AFKN.PDF?Dockey=9100AFKN.PDF>, accessed August 19, 2019.

constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.³⁷

Disaster Mitigation Act (DMA) of 2000

DMA 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local and Indian Tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and Indian Tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of HMGP funds available to a state for development of state, local, and Indian Tribal mitigation plans.³⁸

Pipeline and Hazardous Materials Safety Administration Hazardous Materials Regulations

PHMSA is the federal regulator for the movement of hazardous materials by rail. Regulations cover product classification, operating rules, and tank car standards.³⁹

Code of Federal Regulations, Title 14, Part 77

FAA's primary role is to promote aviation safety and control the use of airspace. Public use airports that are subject to the FAA's grant assurances must comply with specific FAA design criteria, standards, and regulations. Land use safety compatibility guidance from the FAA is limited to the immediate vicinity of the runway, the runway protection zones at each end of the runway, and the protection of navigable airspace. The FAA enforces safety standards and investigates and corrects violations, as appropriate.

Title 14, Part 77 of the CFR, *Safe Efficient Use and Preservation of the Navigable Airspace*, establishes the federal review process for determining whether proposed development activities in the vicinity of an airport have the potential to result in a hazard to air navigation. 14 CFR Part 77 identifies criteria that

³⁷ FEMA. *Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities as of August 2016*. Available online at: <https://www.fema.gov/media-library/assets/documents/15271>.

³⁸ FEMA. 2000. *Disaster Mitigation Act of 2000*. Available online at: <https://www.fema.gov/media-library/assets/documents/4596>, accessed August 19, 2019.

³⁹ U.S. Department of Transportation. *Pipeline and Hazardous Materials Safety Administration*. Available online at: <https://www.phmsa.dot.gov/>, accessed August 19, 2019.

govern which projects require notice to be filed with the FAA, as well as identifying standards for determining whether a proposed project would represent an obstruction “that may affect safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities.” Objects that are identified as obstructions based on these standards are presumed to be hazards until an aeronautical study conducted by the FAA determines otherwise.

14 CFR Part 77.9, *Construction or Alteration Requiring Notice*, indicates that notice must be filed with the FAA for any construction or alteration of objects within 20,000 feet of a public use airport runway when the height of the objects exceeds (i.e., is taller than) an imaginary surface with a 100:1 (1 foot upward per 100 feet horizontally) slope from the nearest point of the nearest runway. This requirement applies when the airport has at least one runway that exceeds 3,200 feet in length; for shorter runways, the notification surface has a 50:1 slope and extends 10,000 feet from the runway. For heliports, the notification surface has a 25:1 slope and extends 5,000 feet from the helicopter takeoff and landing area, commonly referred to as final approach and takeoff area. The notification requirements apply to all public-use airports, military airports, and heliports. When FAA notification is required, it must be provided using FAA Form 7460-1, Notice of Proposed Construction or Alteration.⁴⁰

Title 40 - Protection of Environment, Chapter I - Environmental Protection Agency (Continued) CFR Part 68 - Chemical Accident Prevention Provisions

This part sets forth the list of regulated substances and thresholds, the petition process for adding or removing substances to the list of regulated substances, the requirements for owners or operators of stationary sources concerning the prevention of accidental releases, and the state accidental release prevention programs approved under Section 112(r).⁴¹

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and

⁴⁰ Electronic Code of Federal Regulation. 2019. *Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace*. Available online at: <https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5&node=14:2.0.1.2.9>, accessed August 19, 2019.

⁴¹ U.S. Government Information. 2016. *Title 40 Protection of the Environment Parts 64 to 71*. Available online at: <https://www.govinfo.gov/content/pkg/CFR-2016-title40-vol17/pdf/CFR-2016-title40-vol17.pdf>, accessed August 19, 2019.

specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every 3 years, and is the basis for the California Fire Code (CFC; also updated triennially). Local jurisdictions then adopt the CFC, in some cases with local amendments.⁴²

Presidential Policy Directive 8: National Preparedness

The National Response Framework (NRF) is an essential component of the National Preparedness System mandated in Presidential Policy Directive 8: National Preparedness (PPD-8). PPD-8 is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation. PPD-8 defines five mission areas—Prevention, Protection, Mitigation, Response, and Recovery—and mandates the development of a series of policy and planning documents to explain and guide the Nation’s collective approach to ensuring and enhancing national preparedness. The NRF presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies. It establishes a comprehensive, national, all-hazards approach to domestic incident response. The National Response Plan was replaced by the NRF effective March 22, 2008 and updated most recently in June 2016.

The NRF defines the principles, roles, and structures that organize response protocols as a nation. The NRF:

- Describes how communities, tribes, states, the federal government, private-sectors, and nongovernmental partners work together to coordinate national response;
- Describes specific authorities and best practices for managing incidents; and
- Builds upon the National Incident Management System (NIMS), which provides a consistent template for managing incidents.⁴³

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal

⁴² International Code Council. *Overview of the International Fire Code*. Available online at: <https://www.iccsafe.org/products-and-services/i-codes/2018-i-codes/ifc/>, accessed August 19, 2019.

⁴³ U.S. Department of Homeland Security. 2008. *National Response Framework*. Available online at: <https://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf>, accessed August 19, 2019.

emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency.⁴⁴

Federal Railroad Administration Office of Railroad Safety

FRA's Office of Railroad Safety promotes and regulates safety throughout the Nation's railroad industry.⁴⁵ The regional offices enforce compliance with regulations related to hazardous materials, motive power equipment, operating practices, signal and train control, and tracks. California is in Region 7, which is headquartered in Sacramento, California.

Federal Emergency Management Agency (FEMA)

FEMA's mission is to reduce the loss of life and property and protect communities nationwide from all hazards, including natural disasters, acts of terrorism, and other man-made disasters. FEMA leads and supports the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery and mitigation.

In March 2003, the Federal Emergency Management Agency (FEMA) became a department of the U.S. Department of Homeland Security (DHS), pursuant to 44 CFR, Chapter 1 Part 201. The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. SCAG is under the jurisdiction of FEMA Region 9, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federated State of Micronesia, and more than 150 sovereign tribal entities. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires. A catastrophic earthquake could result in 1,800 fatalities, 9 million people displaced, and \$200 billion in losses.⁴⁶

⁴⁴ FEMA. 1999. *Federal Response Plan*. Available online at: <https://biotech.law.lsu.edu/blaw/FEMA/frpfull.pdf>, accessed August 19, 2019.

⁴⁵ Federal Railroad Administration. 2019. Office of Safety Analysis. Available online at: <https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx>, accessed August 19, 2019.

⁴⁶ FEMA. 2019. *FEMA Region IX: Arizona, California, Hawaii, Nevada, and the Pacific Islands*. Available online at: <https://www.fema.gov/fema-region-ix-arizona-california-hawaii-nevada-pacific-islands>, accessed August 19, 2019.

National Fire Plan

The Department of the Interior's National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts to rural communities, and ensure sufficient firefighting capacity in the future.⁴⁷ The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.⁴⁸

3.9.2.2 State

Hazardous Waste Control Law of 1972

The Hazardous Waste Control Act (Health and Safety Code Sections 25100 et seq.) created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program.⁴⁹ The Act is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

Hazardous Materials Release Response Plans and Inventory Law of 1985

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act; HSC Division 20 Chapter 6.95 [25500–25547.8]) governs hazardous materials handling, reporting requirements, and local agency surveillance programs.⁵⁰

⁴⁷ U.S. Department of the Interior. *Implementing the National Fire Plan*. Available online at: <https://www.doi.gov/sites/doi.gov/files/migrated/budget/appropriations/2003/upload/Implementing-the-National-Fire-Plan.pdf>, accessed August 19, 2019.

⁴⁸ U.S. Fish & Wildlife Service. 2009. *Rural Fire Assistance*. Available online at: https://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml, accessed August 19, 2019.

⁴⁹ California Legislative Information. 1972. *ARTICLE 1. Findings and Declarations [25100-25106]*.

⁵⁰ California Legislative Information. 2013. *Article 1. Business and Area Plans [25500-25519]*.

Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 granted the Office of Spill Prevention and Response (OSPR) the authority to direct prevention, removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in marine waters of California. OSPR implements the California Oil Spill Contingency Plan, consistent with the National Contingency Plan, which pays special attention to marine oil spills and impacts to environmentally- and ecologically-sensitive areas. In 2014, the OSPR program was expanded to cover all statewide surface waters at risk of oil spills from any source, including pipelines and the increasing shipments of oil transported by railroads.⁵¹

California Disaster Assistance Act (CDAA)

The California Disaster Assistance Act (CDAA; CCR Title 19, Chapter 6) authorizes the Director of the California Governor's Office of Emergency Services (Cal OES) to administer a disaster assistance program that provides financial assistance from the state for costs incurred by local governments as a result of a disaster event. Funding for the repair, restoration, or replacement of public real property damaged or destroyed by a disaster is made available when the Director concurs with a local emergency proclamation requesting state disaster assistance.⁵²

Office of Emergency Services

The Office of Emergency Services (OES) is an agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities, in cooperation with fire and law and other enforcement agencies. Each county within the SCAG region has an OES which is responsible for coordinating and maintaining resources necessary for first responders to protect the community. In addition to maintaining a Material Safety Data Sheets (MSDS), notifications to the OES must be made when there is a hazardous material incident or spill that may require clean-up. OES is responsible for preparing, and gathering information on incident, participate in offering guidance to residents and communities affected by incident, coordinating with FEMA, state, and county/city agencies for other needed resource, and implement a reduction of risk program to prevent future accidents causing physical and natural or human casualties.

⁵¹ Oil Spill Task Force. *California*. Available online at: <http://oilspilltaskforce.org/about/task-force-jurisdictions/california/>, accessed August 19, 2019.

⁵² California Office of Emergency Services. 2019. *California Disaster Assistance Act (CDAA)*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/recovery/public-assistance/california-disaster-assistance-act>, accessed August 19, 2019.

The Cal OES mission statement is “Protect lives and property, build capabilities, and support our communities for a resilient California.” Cal OES goals include:

- **Goal 1:** Anticipate and enhance prevention and detection capabilities to protect our State from all hazards and threats.
- **Goal 2:** Strengthen California’s ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events.
- **Goal 3:** Effectively respond to and recover from both human-caused and natural disasters.
- **Goal 4:** Enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity.
- **Goal 5:** Develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond.
- **Goal 6:** Strengthen capabilities in public safety communication services and technology enhancements.⁵³

Local Community Rail Security Act

The Local Community Rail Security Act of 2006 (Public Utilities Code Sections 7665-7667) requires all rail operators to provide security risk assessments to CPUC, the Director of Homeland Security, and the Catastrophic Event Memorandum Account that describe the following:

- Location and function of each rail facility
- Types of cargo stored at or typically moved through the facility
- Hazardous cargo stored at or moved through the facility
- Frequency of hazardous movements or storage
- A description of sabotage-terrorism countermeasures
- Employee training programs
- Emergency response procedures

⁵³ California Governor’s Office of Emergency Services (Cal OES). 2019. *About Cal OES*. Available online at: <https://www.caloes.ca.gov/Cal-OES-Divisions/About-Cal-OES>, accessed September 4, 2019.

- Emergency response communication protocols⁵⁴

California State Aeronautics Act

The purpose of the California State Aeronautics Act pursuant to Public Utilities Code Section 21001 et seq. “is to further and protect the public interest in aeronautics and aeronautical progress” through encouraging the development of private flying and air transportation, promoting safety in aeronautics, effecting uniformity in laws and regulations relating to aeronautics, providing cooperation with federal authorities, protecting residents from unreasonable levels of aircraft noise, and promoting the development of a stable regional air carrier system. The California Department of Transportation (Caltrans), Division of Aeronautics, administers much of this statute.⁵⁵

Hazardous Substances Account Act (State Superfund) (HSC Sections 25300–25301)

Chapter 6.8 of the California Health and Safety Code requires the DTSC to include “the largest manageable number” of potentially responsible parties (PRPs) in any cleanup order that applies to a multiple PRP site after considering certain factors, including the adequacy of the evidence of each PRP's liability, the financial viability of each PRP, and the degree to which each PRP contributed to the release of hazardous substances at the site.⁵⁶

California Emergency Services Act (Assembly Bill (AB) 38 (Chapter 372))

AB 38 combined the Office of Homeland Security and the Office of Emergency Services into Cal EMA. Under AB 38 Cal EMA was responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities in the state.⁵⁷ In 2013, under the Governor's reorganization plan #2, Cal EMA was eliminated and restored to the Governor's Office, renaming it the California Governor's Office of Emergency Services (Cal OES).⁵⁸

Hazardous Materials Release Cleanup (Assembly Bill (AB) 440 Chapter 588)

AB 440 Chapter 588, passed into law in 2013, authorizes a local agency to take clean up action similar to that under the Polanco Redevelopment Act that the local agency determines is necessary, consistent with other state and federal laws, to remedy or remove a release of hazardous substances within the

⁵⁴ California Legislative Information. 2006. *Article 7.3. Local Community Rail Security Act of 2006 [7665-7667]*.

⁵⁵ California Legislative Information. *Chapter 1 General Provisions and Definitions [21001-21020]*.

⁵⁶ California Legislative Information. 1999. *ARTICLE 1. Short Title and Legislative Intent [25300-25301]*.

⁵⁷ California Legislative Information. 2008. *Assembly Bill No. 38*.

⁵⁸ California Office of Emergency Services. 2019. *About CAL OES*. Available online at: <https://caloes.ca.gov/cal-oes-divisions/about-cal-oes>, accessed October 24, 2019.

boundaries of the local agency. AB 440 allows the local agency to designate another agency, in lieu of the department or the regional board, to review and approve a cleanup plan and to oversee the cleanup of hazardous material from a hazardous material release site, under certain conditions. It also provides immunity to the local agency as long as the action is in accordance with a cleanup plan prepared by a qualified independent contractor, and approved by the department, a regional board, or the designated agency, and the cleanup is undertaken and properly completed. Finally, AB 440 authorizes the local agency to recover cleanup costs from the responsible party.⁵⁹

Asbestos Regulations

In 1990, ARB issued an Airborne Toxic Control Measure (ATCM), which prohibited the use of serpentine aggregate for surfacing if the asbestos content was 5 percent or more.⁶⁰ In July 2000, ARB adopted amendments to the existing ATCM prohibiting the use or application of serpentine, serpentine-bearing materials and asbestos-containing ultramafic rock for covering unpaved surfaces unless it has been tested using an approved asbestos bulk test method and determined to have an asbestos content that is less than 0.25 percent.⁶¹ In July 2001, ARB adopted a new ATCM for construction, grading, quarrying, and surface mining operations in areas with serpentine or ultramafic rocks.⁶² These regulations are codified in Title 17, Section 93105 of the CCR. The regulations require preparation and implementation of an Asbestos Dust Mitigation Plan for construction or grading activities on sites greater than 1 acre in size with known Naturally Occurring Asbestos (NOA) soils. The air districts enforce this regulation.⁶³

In October 2000, the Governor's Office of Planning and Research (OPR) issued a memorandum providing guidance to lead agencies in analyzing the impacts of NOA on the environment through the California Environmental Quality Act (CEQA) review process.⁶⁴ In November 2000, the California Department of Real Estate added a section to subdivision forms that includes questions related to NOA on property

⁵⁹ California Legislative Information. 2013. *Assembly Bill No. 440*.

⁶⁰ California Air Resources Board. 2019. *Asbestos ATCM for Surfacing Applications*. Available online at: <https://ww3.arb.ca.gov/toxics/atcm/asbeatcm.htm>, accessed August 19, 2019.

⁶¹ California Air Resources Board. 2001. *Amendments to the Asbestos Regulation for Surfacing Applications*. Available online at: <https://ww3.arb.ca.gov/toxics/asbestos/atcm/regadv1101.pdf>, accessed August 19, 2019.

⁶² California Air Resources Board. 2001. *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations*. Available online at: <https://ww3.arb.ca.gov/toxics/asbestos/atcm/regadv0702.pdf>, accessed August 19, 2019.

⁶³ California Code of Regulations. *Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations*. Available online at: http://www.baaqmd.gov/~media/Files/Compliance%20and%20Enforcement/Asbestos/final_reg_order.ashx, accessed August 19, 2019.

⁶⁴ Governor's Office of Planning and Research. 2000. *Addressing Naturally Occurring Asbestos in CEQA Documents*. Available online at: http://www.co.mendocino.ca.us/aqmd/pdf_files/NOA_OPR.pdf, accessed August 19, 2019.

proposed for development.⁶⁵ In 2004, as part of its school-site review program, the DTSC's School Property Evaluation and Cleanup Division released interim guidance on evaluating NOA at school sites.⁶⁶

In addition, HSC Section 19827.5 prohibits the issuance of demolition permits by local and State agencies for any building or structure that has not submitted all required asbestos notifications to the US EPA, pursuant to Part 61 of Title 40 of the Code of Federal Regulations.⁶⁷

California Occupational Safety and Health Administration (Cal/OSHA) Regulations. Cal/OSHA sets forth regulations for the disturbance of Asbestos Containing Construction Materials (ACCMs) including removal operations for all types of ACCMs. Cal/OSHA requires contractors and employers that remove ACCMs to be registered and consultants and technicians who conduct sampling and/or removal to be certified. In addition, the agency has developed standards for general industry and the construction industry hazardous waste operations and emergency response. Cal/OSHA ensures that employers must have controls to reduce and monitor exposure levels of hazardous materials, an informational program describing any exposure during operations and the inspection of drums and containers prior to removal or opening. Decontamination procedures and emergency response plans must be in place before employees begin working in hazardous waste operations.⁶⁸

California Code of Regulations (CCR) Title 8 Section 1529. This section of the CCR regulates asbestos exposure for work identified in Section 1502, including demolition or salvage of structures where asbestos is present; removal or encapsulation of materials containing asbestos; construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain asbestos, installation of products containing asbestos; asbestos spill/emergency cleanup; transportation, disposal, storage, containment of and housekeeping activities involving asbestos or products containing asbestos, on the site or location at which construction activities are performed; and excavation that may involve exposure to asbestos as a natural constituent which is not related to asbestos mining and milling activities.⁶⁹

⁶⁵ California Department of Real Estate. *Subdivision Forms*. Available online at: <http://www.bre.ca.gov/Forms/Subdivisions.html>, accessed August 19, 2019.

⁶⁶ Department of Toxic Substances Control. 2004. *Interim Guidance Naturally Occurring Asbestos (NOA) at School Sites*. Available online at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/SMBRP_POL_Guidance_Schools_NOA.pdf, accessed August 19, 2019.

⁶⁷ California Legislative Information. 1979. *ARTICLE 1. Contents [19825-19829]*.

⁶⁸ State of California Department of Industrial Relations. 2019. *Cal/OSHA*. Available online at: <https://www.dir.ca.gov/DOSH/>, accessed September 16, 2019.

⁶⁹ California Code of Regulations. *§1529. Asbestos*. Available online at: <https://www.dir.ca.gov/title8/1529.html>, accessed September 16, 2019.

SCAQMD Rule 1403. The Clean Air Act regulates asbestos as a hazardous air pollutant, which subjects it to regulation by South Coast Air Quality Management District (SCAQMD) under its Rule 1403. OSHA also regulates asbestos as a potential worker safety hazard. These rules and regulations prohibit emissions of asbestos from demolition or construction activities, require medical examinations and monitoring of employees engaged in activities that could disturb asbestos fibers, and require notice to federal and local government agencies prior to renovation or demolition activities that could disturb asbestos.⁷⁰

Lead Regulations

Because of its toxic properties, lead is regulated as a hazardous material. Lead is also regulated as a toxic air contaminant. State-certified contractors must perform inspection, testing, and removal (abatement) of lead-containing building materials in compliance with applicable health and safety and hazardous materials regulations, including those outlined in Title 17 of the CCR.

CCR Title 8 Section 1532.1. This section of the CCR applies to all construction work where employees could be occupationally exposed to lead, including demolition or salvage of structures where lead or materials containing lead are present; removal or encapsulation of materials containing lead; new construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead or materials containing lead; installation of products containing lead; lead contamination/emergency clean-up; transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and maintenance operations associated with construction activities. This section sets a maximum exposure limit; requires an assessment to determine whether employees may be exposed to lead; requires employees to create a compliance program to ensure that employee exposure to lead are at or below the permissible exposure limit to the extent feasible; and requires that employees with exposure to lead are provided with respiratory protection, protective work clothing and equipment.⁷¹

Other state laws that address lead include:

- Hazardous Waste Control Law
- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

⁷⁰ South Coast Air Quality Management District. 2007. *Rule 1403. Asbestos Emissions from Demolition/Renovation Activities*. Available online at: <http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1403.pdf>, accessed September 16, 2019.

⁷¹ California Code of Regulations. §1532.1. *Lead*. Available online at: https://www.dir.ca.gov/title8/1532_1.html, accessed September 16, 2019.

- Carpenter-Presley-Tanner Hazardous Substances Account Act
- Hazardous Waste Management Planning and Facility Siting (Tanner Act)
- Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act)

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP; CCR Title 19, Division 2, Chapter 4.5) was implemented on January 1, 1997, and replaced the California Risk Management and Prevention Program (RMPP). The CalARP program encompasses both the federal “Risk Management Program,” established in the Code of Federal Regulations, Title 40, Part 68, and the State of California program, in accordance with the Title 19 of the California Code of Regulations, Division 2, Chapter 4.5.⁷²

The main objective of the CalARP program is to prevent accidental releases of those substances determined to potentially pose the greatest risk of immediate harm to the public and the environment, and to minimize the consequences if releases do occur. These substances are called regulated substances and include both flammable and toxic hazardous materials listed on the Federal Regulated Substances for Accidental Release Prevention and on the State of California Regulated Substances lists. Businesses that handle regulated substances in industrial processes above threshold quantity levels are subject to CalARP program requirements.

The CalARP program requires businesses to have planning activities that are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. It is further intended to mitigate the consequences of an accidental release, by requiring owners or operators of facilities to develop and implement an accident prevention program.

California Human Health Screening Levels

The California Human Health Screening Levels (CHHSLs) were developed as a tool to assist in the evaluation of contaminated sites for potential adverse threats to human health. Preparation of the CHHSLs was required by the California Land Environmental Restoration and Reuse Act of 2001. The CHHSLs were developed by OEHHA, an agency under the umbrella of Cal/EPA, and are contained in its report entitled *Human-Exposure- Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for*

⁷² California Office of Emergency Services. 2019. *California Accidental Release Prevention*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/California-Accidental-Release-Prevention>, accessed August 19, 2019.

Contaminated Soil.⁷³ The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in 1 million and a hazard quotient of 1.0 for non-cancer health effects. The CHHSLs were developed using standard exposure assumptions and chemical toxicity values published by EPA and Cal/EPA. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, the presence of a chemical in soil, soil gas, or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/ industrial CHHSLs) at the site.⁷⁴

California Fire Code (CFC)

The CFC is Chapter 9 of CCR Title 24. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every three years.⁷⁵

2017 State of California Emergency Plan

The 2017 State of California Emergency Plan, also referred to as the State Emergency Plan (SEP), addresses the state's response to extraordinary emergency situations associated with natural disasters or human-caused emergencies. The California Emergency Services Act provides the basic authorities for conducting emergency operations following the proclamation of emergencies by appropriate local officials and/or the Governor. The provisions of this act are further reflected and expanded upon by local emergency ordinances. In accordance with this act, the SEP describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental agencies, how resources are mobilized, how the public will be informed and the process to ensure

⁷³ Office of Environmental Health Hazard Assessment. 2005. *Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil*. Available online at: <https://oehha.ca.gov/media/downloads/cmr/screenreport010405.pdf>, accessed September 4, 2019.

⁷⁴ Office of Environmental Health Hazard Assessment. 2019. *California Human Health Screening Levels*. Available online at: <https://oehha.ca.gov/risk-assessment/california-human-health-screening-levels-chhsls>, accessed August 19, 2019.

⁷⁵ International Code Council. 2019. *2019 California Fire Code, Title 24, Part 9*. Available online at: <https://codes.iccsafe.org/content/chapter/15600/>, accessed August 19, 2019.

continuity of government during an emergency or disaster. The SEP emphasizes mitigation programs to reduce the vulnerabilities to disaster and preparedness activities to ensure the capabilities and resources are available for an effective response. To assist communities and governments to recover from the disaster, the SEP outlines programs that establish a consistent, statewide framework to enable state, local, tribal governments, federal government and the private sector to work together to mitigate, prepare for, respond to and recover from the effects of emergencies regardless of cause, size, location, or complexity.⁷⁶

2018 State Hazard Mitigation Plan (SHMP)

Approved by FEMA in September 2018, as an Enhanced State Mitigation Plan, the 2018 SHMP update continues to build upon California's commitment to reduce or eliminate the impacts of disasters caused by natural, technological, accidental, and adversarial/human-caused hazards, and further identifies and documents progress made in hazard mitigation efforts, new or revised state and federal statutes and regulations, and emerging hazard conditions and risks that affect the State of California. Resilience depends on the whole community and is a shared responsibility for all levels of government, private and nonprofit sectors, and individuals.⁷⁷

3.9.2.3 Local

Certified Unified Program Agencies (Senate Bill 1082)

Californians are protected from hazardous waste and materials by a unified program that ensures consistency throughout the state in regards to administrative requirements, permits, inspections, and enforcements. The goal of the CUPA is to create a more cohesive, effective, and efficient program. Under the CUPA, application and required submission forms are standardized and consolidated, inspections are combined where possible, annual fees for each program element are merged into a single fee system, and enforcement procedures are made more consistent. The program elements consolidated under the CUPA are:

- Hazardous waste generator and onsite hazardous waste treatment programs (a.k.a. Tiered permitting);
- Aboveground petroleum storage tank spill prevention control and countermeasure plan (SPCC);

⁷⁶ California Emergency Management Agency. 2017. *State of California Emergency Plan 2017*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/state-of-california-emergency-plan-emergency-support-functions>, accessed September 16, 2019.

⁷⁷ California's Office of Emergency Services. 2018. *2018 California State Hazard Mitigation Plan*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan>, accessed August 19, 2019.

- Hazardous materials release response plans and inventory program (a.k.a. hazardous materials disclosure or community-right-to-know)
- California Accidental Release Prevention Program (Cal ARP);
- Underground storage tank program (UST); and
- Uniform fire code plans and inventory requirements.

CalEPA oversees the program, and certifies 83 local government agencies, including 37 in the SCAG region. Local agencies administering one or more of the six program elements have the option to either apply for CUPA status within the CalEPA or retain their programs by becoming a participating agency under another CUPA's jurisdiction. Some examples of the agencies that are participating under the CUPA are fire departments, environmental and health branches, Department of Toxic Substances Controls within city and municipal governments.⁷⁸

County General Plans and Other County-wide Planning

In addition to federal and state requirements, general plans and municipal codes of counties and cities in the SCAG region may include safety elements that goals and policies related protecting people and property from risks from hazards and hazardous materials.

Los Angeles County General Plan

The Safety Element of the Los Angeles County General Plan 2035 Update, in conjunction with the AllHazard Mitigation Plan prepared by the Chief Executive Office, Office of Emergency Management (CEO OEM), sets strategies for natural and man-made hazards in Los Angeles County. The All-Hazard Mitigation Plan, which has been approved by FEMA and the California Emergency Management Agency (CalEMA), includes a compilation of known and projected hazards in Los Angeles County.^{79,80}

Los Angeles County Operational Area Emergency Response Plan (ERP)

The County of Los Angeles developed the ERP to ensure the most effective allocation of resources for the maximum benefit and protection of the public in time of emergency. The ERP does not address normal

⁷⁸ California Environmental Protection Agency. 2019. *Unified Program*. Available online at: <https://calepa.ca.gov/cupa/>, accessed August 19, 2019.

⁷⁹ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

⁸⁰ County of Los Angeles, Chief Executive Office – Office of Emergency Management. 2014. All-Hazard Mitigation Plan. Available online at: <https://ceo.lacounty.gov/wp-content/uploads/OEM/hazmitgplan.pdf>, accessed September 4, 2019.

day-to-day emergencies or the well-established and routine procedures used in coping with them. Instead, the operational concepts reflected in this plan focus on potential large-scale disasters like extraordinary emergency situations associated with natural and man-made disasters and technological incidents which can generate unique situations requiring an unusual or extraordinary emergency response. The purpose of the plan is to incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts within the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System, mutual aid and other appropriate response procedures. The goal of the plan is to take effective life-safety measures and reduce property loss, provide for the rapid resumption of impacted businesses and community services, and provide accurate documentation and records required for cost-recovery.⁸¹

San Bernardino County General Plan

The San Bernardino County General Plan contains an entire element regarding household hazardous waste, which includes reduction implementation programs.⁸² The Safety Element was amended in 2014 with goals such as the County providing a Hazard Mitigation Plan which will become part of the Safety Element.⁸³

Imperial County General Plan

The Land Use Planning and Public Safety and Emergency Preparedness Elements of the Imperial County General Plan have established goals related to protection of public health and safety for consideration in the land use planning process. The specified goals and objectives are intended to minimize potential hazards to public health and safety, and prevent the loss of life and damage to properties, and rely heavily on ensuring conformance with established applicable state codes. The General Plan has specific goals related protecting the public from exposure to hazardous materials and wastes, by discouraging the transport of hazardous materials/waste near or through residential areas and critical facilities, measures to minimize the possibility of hazardous materials/waste spills, land use planning policies to discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations,

⁸¹ County of Los Angeles. *Los Angeles County Operational Area Emergency Response Plan*. Available online at: <https://www.caloes.ca.gov/AccessFunctionalNeedsSite/Documents/LA%20County%20OA%20Emergency%20Response%20Plan.pdf>, accessed September 16, 2019.

⁸² County of San Bernardino Land Use Services Division. 2014. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, August 19, 2019.

⁸³ County of San Bernardino Land Use Services Division. 2014. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, August 19, 2019.

and an established objective of adopting and ordinances, policies, and guidelines that assure the safety of Imperial County ground and surface waters from toxic or hazardous materials and wastes.⁸⁴

Orange County General Plan

The Safety Element of the Orange County General Plan provides for the protection of people and property from risks associated with hazards and hazardous materials through the implementation of mitigation measures as outlined in the California Emergency Plan, the California Master Mutual Aid Agreement, the Orange County Emergency Plan, the Orange County Operational Area Plan, S.O.N.G.S. Plan, County of Orange and Orange County Fire Authority Hazard Mitigation Plan, and other emergency management plans. The Safety Element of the Orange County General Plan focuses primarily upon the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, intentional acts of terrorism and nuclear protection operations. To reduce the County's susceptibility and vulnerability to extraordinary emergency situations, the Safety Element recommends continued emphasis is placed on several coordinated efforts:

- Mitigation
- Emergency planning
- Training of full-time, auxiliary, and reserve personnel
- Public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with such emergencies⁸⁵

In November 2015, the Board of Supervisors adopted a new County of Orange and Orange County Fire Authority Hazard Mitigation Plan (HMP) in compliance with federal and state regulations.⁸⁶

Ventura County General Plan

The Safety Element of the Ventura County General Plan contains specific goals to minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the use, transport, treatment and disposal of hazardous materials and hazardous wastes. Additionally specific goals are identified to locate potentially hazardous facilities and operations in areas

⁸⁴ Imperial County Planning & Development Services. 2015. *Land Use Element of the Imperial County General Plan*. Available online at: [http://www.icpds.com/CMS/Media/Land-Use-Element-\(2015\).pdf](http://www.icpds.com/CMS/Media/Land-Use-Element-(2015).pdf), accessed August 19, 2019.

⁸⁵ Orange County Planning & Development. *Chapter IX Safety Element*. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40234>, accessed August 19, 2019.

⁸⁶ County of Orange & Orange County Fire Authority. 2015. *Local Hazard Mitigation Plan*. Available online at: http://cams.ocgov.com/Web_Publisher/Agenda07_12_2016_files/images/O00216-000668A.PDF, accessed August 19, 2019.

that would not expose the public to a significant risk of injury, loss of life, or property damage. The plan identifies five policies and 13 programs related to the management of hazards and hazardous materials.⁸⁷

City General Plans

The SCAG region spans six counties and 191 cities, each of which has a general plan containing policies related to hazards and hazardous materials. Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region, such as the City of Los Angeles Local Hazard Mitigation Plan. The Local Hazard Mitigation Plan meets the planning requirements of FEMA's Community Rating System.⁸⁸ Furthermore, fire departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage, handling, and transporting hazardous substances and materials. See **Section 3.20, Wildfire**, for an additional discussion on hazards in relation to wildland fires.

3.9.3 ENVIRONMENTAL IMPACTS

3.9.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined the Plan could result in significant impacts related to hazards and hazardous materials, if the Plan would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area; or

⁸⁷ Ventura County. 2019. *Ventura County 2040 General Plan Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed August 19, 2019.

⁸⁸ City of Los Angeles Emergency Management Department. 2018. *Local Hazard Mitigation Plan*. Available online at: https://emergency.lacity.org/sites/g/files/wph496/f/2018_LA_HMP_Final_2018-11-30.pdf, accessed September 4, 2019.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (this criterion is addressed in **Section 3.20, Wildfire, Impact WF-2**).

3.9.3.2 Methodology

The potential for implementation of the Plan to expose people or property to risk from hazards or hazardous materials was evaluated in accordance with Appendix G of the 2019 *State California Environmental Quality Act (CEQA) Guidelines*, and at the programmatic level of detail, in relation to the general plans of the six counties and the 191 cities within the SCAG region, a query of government data bases, and a review of related literature germane to the SCAG region.

The frequency and location of hazardous material shipments are an indicator of potential risk. The impact of hazardous materials transportation through the SCAG region can be assessed by examining the Plan's effect on shipments of hazardous materials. To assess potential hazards to sensitive receptors adjacent to transportation corridors, geographic information systems (GIS) analysis was used to identify where major highway, rail, and transit projects included in the Plan would be within 150 feet of 2045 residential land uses. Major projects considered in the Plan since the 2016 RTP/SCS was adopted include additional highway projects, high-occupancy vehicle (HOV) projects, mixed flow projects, and toll projects.

The methodology for determining the significance of hazardous material impacts compares the existing conditions (2019) to the future 2045 conditions under the Plan, as required in CEQA Section 15126.2(a). Implementation of the Plan would affect the transportation and handling of hazardous materials in the SCAG region by improving and increasing transportation routes in proximity to sensitive receptors such as educational and residential uses. The potential for risk related to the transport of hazardous materials was assessed by evaluating the locations of proposed transportation projects in relation to the surrounding uses, as well as potential significant impacts related to the risk of accidental releases of hazardous materials due to an increase in the transportation of hazardous materials and the potential for such releases to reach schools, and communities adjacent to transportation facilities included in the Plan.

In 2015, the California Supreme Court in *CBIA v. BAAQMD*, held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of a project. However, if a project exacerbates a condition in the existing environment, the lead agency is required to analyze the impact of that exacerbated condition on future residents and users of a project, as well as other impacted individuals. The following discussion presents a programmatic, regional

evaluation of potential impacts of transportation projects, land use strategies, and development projects anticipated to occur under the Plan on increased risk of exposure to hazardous materials.⁸⁹

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.9.3.3 Impacts and Mitigation Measures

Impact HAZ-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Significant and Unavoidable Impact- Mitigation Required.

The transportation, use, and/or disposal of hazardous materials are subject to numerous laws, regulations, and health and safety standards set forth by federal, state, and local authorities that regulate the proper handling of such materials and their containers. These include the EPA, OSHA, U.S. DOT, and the Food and Drug Administration (FDA) for the federal government. State agencies, including the Cal/EPA, have parallel and, in some cases, more stringent rules governing the use of hazardous materials. U.S. DOT requires that hazardous waste inventories (which are used to ensure that hazardous wastes are strictly monitored and tracked from the point of generation through ultimate disposal) be maintained. To operate in California, all hazardous waste transporters must be registered with the DTSC. Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the U.S. DOT regulations.

The Connect SoCal Plan includes transportation projects and land use strategies, that may create a significant hazard to the public or the environment through the transportation, use, and/or disposal of

⁸⁹ Note that as discussed in **Section 3.15.3 Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code § 21096.

hazardous materials, constituting a significant impact. Goods movement activities can facilitate the movement of hazardous materials throughout the transportation network. Proposed freight rail enhancements and other goods movement capacity enhancements identified in the Plan could result in increased or new transport of hazardous materials or wastes. In addition, construction and maintenance of these projects would result in use of equipment that contains or uses routine hazardous materials (e.g., diesel-fuel, paint and cleaning solutions), and the transportation of excavated soil and/or groundwater containing contaminants from previously contaminated areas. Port traffic (and associated goods movement in the region) is anticipated to triple over the lifetime of the Plan. Container traffic for the San Pedro Bay Ports is anticipated to increase from approximately 17.6 million Twenty-foot Equivalent Units (TEUs) in 2018 to a projected 34 million TEUs in 2040. The fraction of containers that include hazardous materials is not known, but if it is assumed that it remains constant, transport of hazardous materials would be expected to triple along with other container traffic. In addition to container traffic, hazardous materials are transported via company trucks (for example gas companies transport gasoline, diesel and other flammable substances) and various industrial users transport materials for their businesses (raw materials and waste products).

Reducing conflicts between goods movement and people movement is critical to realize a safer system for users. In 2016, there were nearly 3,700 truck-involved accidents⁹⁰ in the SCAG region, an increase of 22.8 percent versus 2012, and more than 130 of them resulted in fatalities.⁹¹ A greater separation of passenger and goods movement is envisioned in the Plan to make the system safer for all users.

Regional goods movement strategies should also mitigate neighborhood and community impacts to the maximum extent possible by selecting the least intrusive alignments for new facilities, seeking shared-use corridors (e.g., rail and truck, transportation and utility), and separating modal system conflicts. The California Air Resources Board (CARB) plans to release a freight handbook in early 2020 that will offer communities recommendations on mitigation from freight facilities. This is consistent with the Plan which offers an aggressive program of technology research, development, and demonstration aimed at zero emission truck and rail technologies as major elements of the vision.

The construction and maintenance of transportation projects and development projects anticipated to occur under the Plan would potentially involve the use of hazardous materials such as fuels, solvents, paints, and other architectural coatings. The use and storage of these materials is regulated by local fire departments, Certified Unified Program Agencies (CUPAs), and the Cal OSHA. Materials remaining after

⁹⁰ Another 245 resulted in severe injuries and more than 1,000 others had other visible injuries.

⁹¹ With the exception of 2015, the number of fatalities in truck involved collisions has increased annually since 2012. However, the ratio of overall fatalities to truck-involved collisions has remained between 3.6 percent to 3.8 percent for each year besides 2014 (4.1 percent).

project construction can likely be reused on other projects. For materials that cannot be or are not reused, disposal would be regulated by DTSC under state and federal hazardous waste regulations. Additionally, increased transport and handling of hazardous materials particularly by goods movement facilities could result in increased risk of accidental releases reaching neighborhoods and communities adjacent to the transportation facilities).

To accommodate the region's new growth (3.2 million more people by 2045), the Connect SoCal Plan's land use strategies encourage growth adjacent to transit and transportation facilities in order to reduce trips and trip lengths. However, with increasing growth adjacent to such transportation facilities, there would be greater potential risk for exposure of people and property to hazardous materials from the routine transport, use, and disposal of hazardous materials. While the transport, use, and disposal of hazardous materials is heavily regulated as discussed above, and transportation projects and development projects would be required to comply with all existing applicable regulations, due to the volume of transportation projects and large amount of growth anticipated to occur under the Plan, it is possible that significant impacts could occur thus requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

- SMM HAZ-1:** SCAG shall work with the U.S. DOT, the Office of Environmental Service Caltrans, and the private sector to continue to conduct driver safety training programs and enforce speed limits on roadways. In an effort to reduce risks associated with the transport of hazardous materials in the SCAG region, SCAG shall encourage the U.S. Department of Transportation and the California Highway Patrol to continue to enforce speed limits and existing regulations governing goods movement and hazardous materials transportation.
- SMM HAZ-2:** SCAG shall notify member agencies of the importance of ensuring that construction and operation of transportation projects provide for the safe transport and disposal of hazardous waste, consistent with the provisions of HMR, 49 CFR Parts 171–180.
- SMM HAZ-3:** SCAG shall coordinate with the Office of Environmental Services to identify any transportation infrastructure elements within the SCAG region where risks to people and property occur at an above-average incident level, potentially warranting consideration for remedial design in future regional transportation plans (RTPs).

Project Level Mitigation Measures

PMM HAZ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the routine transport, use, or disposal of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials.
- b) Specify Project requirements for interim storage and disposal of hazardous materials during construction and operation. Storage and disposal strategies must be consistent with applicable federal, state, and local statutes and regulations. Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the business plan for projects as applicable and appropriate.
- c) Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following:
 - The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
 - The location of such hazardous materials.
 - An emergency response plan including employee training information.

- A plan that describes the way these materials are handled, transported and disposed.
- d) Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction.
- e) Avoid overtopping construction equipment fuel gas tanks.
- f) Properly contain and remove grease and oils during routine maintenance of construction equipment.
- g) Properly dispose of discarded containers of fuels and other chemicals.
- h) Prior to shipment remove the most volatile elements, including flammable natural gas liquids, as feasible.
- i) Identify and implement more stringent tank car safety standards.
- j) Improve rail transportation route analysis, and modification of routes based on that analysis.
- k) Use the best available inspection equipment and protocols and implement positive train control.
- l) Reduce train car speeds to 40 miles per hour when passing through urbanized areas of any size.
- m) Limit storage of crude oil tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments.
- n) Notify in advance county and city emergency operations offices of all crude oil shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident.
- o) Report quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying crude oil identified.

- p) Fund training and outfitting emergency response crews that includes the cost of backfilling personnel while in training.
- q) Undertake annual emergency responses scenario/field based training including Emergency Operations Center Training activations with local emergency response agencies.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the volume of transportation projects and amount of growth under the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to routine use, transport or disposal of hazardous waste to be significant and unavoidable.

Impact HAZ-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects included in the Connect SoCal Plan would result in significant impacts by facilitating the movement of goods, including hazardous materials, through the SCAG region. The Plan's land use strategies may guide regional growth, including industrial types of uses that could generate hazardous materials. The region's highway and arterial system covers over 73,000 lane miles and serves more than 63 million trips daily.⁹² As a result of anticipated growth that is projected to occur within cities and counties under the Plan in the next 25 years, it is anticipated that there would be a substantial increase in vehicle miles traveled (VMT) by trucks, a common mode of hazardous materials transport, as Plan transportation improvements close critical gaps in the highway network. In addition, freight rail enhancements, truck mobility improvements, intermodal facilities, and other goods movement capacity enhancements are included in the Plan, including new and expanded railyards, additional main line railroad tracks, improved and modernized port terminals and critical bottleneck

⁹² Southern California Association of Governments. 2019. Highways and Arterials Draft Technical Report.

relief projects on major freeways. Specifically, the Plan proposes to expand near-dock rail and double the capacity of the Intermodal Transfer Container Facility. In order to improve on-road transportation, the Plan has identified 42 heavy duty truck bottlenecks in the region and proposes the Bottleneck Relief Strategy and freight corridors to alleviate truck congestion. Moreover, near the San Pedro Port and the Port of Hueneme, many modernization and new on-road transportation projects have been proposed and are included in the Connect SoCal's Goods Movement Report.⁹³

Transportation of goods, in general, and hazardous materials, in particular, can thus be expected to increase substantially with implementation of the transportation projects included in the Plan. It is estimated that daily regional heavy-duty truck vehicle hours of delay (VHD) within the SCAG region would increase from 113,192 in 2019 to 177,459 in 2045, which is an approximately 56 percent increase. Further, the Plan estimates a 300 percent increase in vehicle hours of delay at rail-highway grade crossings in the region by 2045. The past several Plan updates including this one, incorporate dedicated truck lane facilities. These facilities would be aligned to connect freight intensive locations such as the ports, warehousing/distribution center locations and manufacturing locations. They would have fewer ingress/egress locations than typical urban interstates have to smooth the flow of goods in the region. Additional transportation strategies and projects included in the Plan would generally improve transportation safety, thus reducing the likelihood of hazardous material transportation incidents.

Plan projects, including rail-to-rail grade separations, rail operations safety improvements, truck mobility improvements such as truck-only freight corridors, and grade separations of streets and highways from rail lines, could be expected to reduce the level of risk posed by hazardous materials transport by separating freight transportation from other traffic types and reducing the risk of collisions. Such improvements to the transportation system may provide an incentive for even greater goods shipment through the SCAG region, potentially offsetting this benefit. The imposition of tolls or fees for dedicated truck lane facilities may induce the transfer of some freight, including hazardous materials, to rail rather than truck. Federal statistics show that hazardous materials incidents are much less common by rail than on highways. Since most hazardous materials are transported by truck, the majority of incidents related to the movement of hazardous materials occur on highways or in truck terminals. A very small share of hazardous materials transportation incidents are the result of a vehicular crash or derailment (referred to as "accident related"). While 1.5 percent of the incidents in 2016 were accident related, they accounted for

⁹³ See 2020 RTP/SCS Goods Movement Technical Report.

64.3 percent of all property damage. Highway had the highest share of incidents at 90.4 percent but accounted for 60.9 percent of all property damage.⁹⁴

Even with Plan transportation improvements, there remains the potential for significant impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment from implementation of transportation projects and development anticipated to occur under the Plan, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3**.

Project Level Mitigation Measures

See **PMM HAZ-1**.

PMM HAZ-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce hazards related to the reasonably foreseeable upsets and accidents involving the release of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

Require implementation of safety standards regarding transport of hazardous materials, including but not limited to the following:

- a) Removal of the most volatile elements, including flammable natural gas liquids, prior to shipment;
- b) More stringent tank car safety standards;
- c) Improved rail transportation route analysis, and modification of routes based on that analysis;
- d) Utilization of the best available inspection equipment and protocols, and implementation of positive train control;

⁹⁴ U.S. Department of Transportation, Bureau of Transportation Statistics. 2017. *Freight Facts and Figures*. Available online at: <https://rosap.ntl.bts.gov/view/dot/34923>, accessed September 5, 2019.

- e) Reduced train car speeds to 40 miles per hour when passing through urbanized areas of any size;
- f) Limitations on storage of hazardous materials tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments;
- g) Advance notification to county and city emergency operations offices of all crude oil and hazardous materials shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident;
- h) Quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying hazardous materials.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the increased truck volumes and increases in passenger and freight rail traffic as a result of implementation of the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to foreseeable accident conditions resulting in the release of hazardous materials to be significant and unavoidable.

Impact HAZ-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Significant and Unavoidable Impact - Mitigation Required.

Implementation of the transportation projects in the Plan and growth from the Plan could result in significant impacts with regard to emitting hazardous emission or handling of hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school. Transportation and development projects may result in the use, transport and/or storage of hazardous materials. Using SCAG's GIS data, the Plan's network of transportation projects was overlaid on the

region to determine the potential for effects related to hazardous materials emissions to impact schools. Results of the GIS analysis show that under the Plan, approximately 36 existing kindergarten through 12th-grade schools are within a one-quarter mile buffer of the transportation projects included in the Plan (see **Table 3.9-4, School, Hospitals, and Nursing Homes within One-Quarter Mile of Connect SoCal Transportation Projects**).

Increased transport of hazardous materials carried on existing roadways could affect adjacent land uses including along existing facilities within one-quarter mile of schools if there were to be a release or incident during transportation. Changes in air toxics and potential impacts on sensitive receptors (including schools) is discussed in **Section 3.3, Air Quality**. In general, the transport, use, and storage of hazardous materials is heavily regulated as described in the regulatory framework section above, to ensure that hazardous materials do not pose a significant risk to nearby receptors including schools.

However, due to the number of transportation projects and more dense, compact urban development encouraged by land use strategies in the Plan, there would be the potential for significant impacts related to the emission of hazardous materials or the handling of hazardous or acutely hazardous materials, substances, or wastes within one-quarter mile of an existing or proposed school, requiring mitigation measures.

Table 3.9-4
School, Hospitals, and Nursing Homes within One-Quarter Mile
of Connect SoCal Transportation Projects

Mode	Connect SoCal Plan
Colleges	66
Hospitals	117
K-12 Schools	36
Nursing Homes	17
Senior Centers	20
Urgent Care Centers	5

Source: SCAG, 2019: TeleAtlas/TomTom 2018

Note: The above figures account for all types of colleges, hospitals, k-12 schools, nursing homes, senior centers, and urgent care centers.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3**.

Project Level Mitigation Measures

See PMM HAZ-1 and PMM HAZ-2.

PMM HAZ-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the release of hazardous materials within one-quarter mile of schools, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Where the construction and operation of projects involves the transport of hazardous materials, avoid transport of such materials within one-quarter mile of schools, when school is in session, wherever feasible.
- b) Where it is not feasible to avoid transport of hazardous materials, within one-quarter mile of schools on local streets, provide notifications of the anticipated schedule of transport of such materials.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the volume of transportation projects, the more dense and compact urban development resulting from the land use strategies in the Plan, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to release of hazardous materials within one-quarter mile of schools to be significant and unavoidable.

Impact HAZ-4 **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.**

Significant and Unavoidable - Mitigation Required.

Transportation projects and development projects anticipated to occur under the Plan may have the potential to be located on a site which is included on a list of hazardous materials sites compiled pursuant

to Government Code Section 65962.5 (the Cortese List). The Plan includes transportation system improvements to close critical gaps in the transportation network that currently hinder access to certain parts of the region. Construction related to these transportation projects and anticipated development could involve construction on or adjacent to sites that are contaminated (buildings and/or soil and/or groundwater) due to past use or disposal of hazardous materials. Federal, state, and local laws regulate the remediation of these sites, and it is likely that the majority of contaminated sites have been identified or are easily identifiable from existing information. Given the intensity of past use of land, there are a substantial number of contaminated sites on the Cortese List in the SCAG region (See **Table 3.9-1**). In urban as well as rural areas, many projects, both transportation and development, would likely need to address at least the potential for contamination. Because of the large number of contaminated sites and the risk associated with encountering and cleaning up of these sites, this impact could be significant.

The land use strategies included in the Plan as well as transportation strategies and investments that are intended to increase mobility and improve accessibility would potentially influence population distribution, resulting in a potentially significant impact related to disturbance of contaminated sites by new urban development, most of which would be in existing urban areas. The land use strategies included in the Plan generally aim to direct future population growth toward high-quality transit areas (HQTAs) in close proximity to transit. Consequently, the redevelopment and reuse of urban infill lands as well as urban opportunity areas that are currently underutilized may become more common as the region grows.

Because Connect SoCal may cause transportation projects and development to be located on sites which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the Plan would have the potential to create a significant hazard to the public or the environment, requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-3**.

Project Level Mitigation Measures

PMM HAZ-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to projects that are located on a site

which is included on the Cortese List, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) For any listed sites or sites that have the potential for residual hazardous materials as a result of historic land uses, complete a Phase I Environmental Site Assessment, including a review and consideration of data from all known databases of contaminated sites, during the process of planning, environmental clearance, and construction for projects.
- b) Where warranted due to the known presence of contaminated materials, submit to the appropriate agency responsible for hazardous materials/wastes oversight a Phase II Environmental Site Assessment report if warranted by a Phase I report for the project site. The reports should make recommendations for remedial action, if appropriate, and be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.
- c) Implement the recommendations provided in the Phase II Environmental Site Assessment report, where such a report was determined to be necessary for the construction or operation of the project, for remedial action.
- d) Submit a copy of all applicable documentation required by local, state, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II Environmental Site Assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.
- e) Conduct soil sampling and chemical analyses of samples, consistent with the protocols established by the U.S. EPA to determine the extent of potential contamination beneath all underground storage tanks (USTs), elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition or construction activities would potentially affect a particular development or building.
- f) Consult with the appropriate local, state, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.

- g) Obtain and submit written evidence of approval for any remedial action if required by a local, state, or federal environmental regulatory agency.
- h) Cease work if soil, groundwater, or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums, or other hazardous materials or wastes are encountered), in the vicinity of the suspect material. Secure the area as necessary and take all appropriate measures to protect human health and the environment, including but not limited to, notification of regulatory agencies and identification of the nature and extent of contamination. Stop work in the areas affected until the measures have been implemented consistent with the guidance of the appropriate regulatory oversight authority.
- i) Soil generated by construction activities should be stockpiled on-site in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Complete sampling and handling and transport procedures for reuse or disposal, in accordance with applicable local, state and federal laws and policies.
- j) Groundwater pumped from the subsurface should be contained on-site in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies. Utilize engineering controls, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building.
- k) As needed and appropriate, prior to issuance of any demolition, grading, or building permit, submit for review and approval by the Lead Agency (or other appropriate government agency) written verification that the appropriate federal, state and/or local oversight authorities, including but not limited to the Regional Water Quality Control Board (RWQCB), have granted all required clearances and confirmed that the all applicable standards, regulations, and conditions have been met for previous contamination at the site.
- l) Develop, train, and implement appropriate worker awareness and protective measures to assure that worker and public exposure is minimized to an

acceptable level and to prevent any further environmental contamination as a result of construction.

- m) If asbestos-containing materials (ACM) are found to be present in building materials to be removed, submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health and Safety Code Section 25915-25919.7; and other local regulations.
- n) Where projects include the demolitions or modification of buildings constructed prior to 1978, complete an assessment for the potential presence or lack thereof of ACM, lead based paint, and any other building materials or stored materials classified as hazardous waste by state or federal law.
- o) Where the remediation of lead-based paint has been determined to be required, provide specifications to the appropriate agency, signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: California Occupational Safety and Health Administration's (Cal OSHA's) Construction Lead Standard, Title 8 California Code of Regulations (CCR) Section 1532.1 and Department of Health Services (DHS) Regulation 17 CCR Sections 35001-36100, as may be amended. If other materials classified as hazardous waste by state or federal law are present, the project sponsor should submit written confirmation to the appropriate local agency that all state and federal laws and regulations should be followed when profiling, handling, treating, transporting, and/or disposing of such materials.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and

feasible. However, because of the regional nature of the analysis, the number of contaminated sites on the Cortese List in the region, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to being located on a hazardous materials site to be significant and unavoidable.

Impact HAZ-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

Significant and Unavoidable – Mitigation Required.

The Plan would not in itself result in a safety hazard; however, increased population growth that would occur by 2045 would result in increased air traffic in major commercial airports in Southern California. Air travel in the SCAG region continues to grow. The 2020 Plan's regional air passenger demand forecast is 197.14 million annual passengers (MAP) in 2045, and the Plan's air cargo demand is approximately 7.77 million tons in 2045. The MAP forecast is higher than the previously adopted 2016 RTP/SCS's number of 136.2 MAP adopted for 2040, and the air cargo demand is similarly higher than what was adopted in the previously adopted 2016 RTP/SCS (approximately 3.78 million metric tons in 2040). Aircraft operations are not anticipated to grow as fast as passenger growth, but are still expected to grow -- from 3.7 million in 2017 to 4.58 million in 2045,⁹⁵

There are 57 public and private airports in the SCAG region, including 12 major airports serving the region (**Figure 3.9-1**). The Plan's land use strategies generally aim to focus growth in HQTAs and transit priority areas (TPAs) in locations away from airport clear zones and accident potential zones. Encouraging and distributing new growth in HQTAs and TPAs is expected to decrease the number of Southern California residents' proximity to airports and potential for safety risks and hazards associated with air traffic.

In addition, most major public airports are required to implement an Airport Land Use Compatibility Plan which regulates safety and land use in adjacent areas. As explained in the Connect SoCal Aviation and Airport Ground Access Technical Report,⁹⁶ existing law mandates the creation of an ALUCP to coordinate planning for areas that surround public use airports. The ALUCP protects the public by minimizing their exposure to excessive noise⁹⁷ and safety hazards within these areas. See **Section 3.13**

⁹⁵ Southern California Association of Governments. 2019. *Aviation and Airport Ground Access Draft Technical Report*.

⁹⁶ Southern California Association of Governments. 2019. *Aviation and Airport Ground Access Draft Technical Report*.

⁹⁷ Noise impacts related to airports/aircraft are specifically discussed in **Section 3.13, Noise**.

Noise, Impact NOI-3 for a further discussion noise impacts from airports/aircrafts. However, it is conservatively assumed sensitive receptors may experience a greater risk to hazard impacts than at present in the vicinity of airports resulting in significant impacts.

Mitigation Measures

SCAG Mitigation Measures

SMM NOISE-1

SMM HAZ-5: SCAG shall continue to collaborate with key stakeholders on regional aviation planning issues through the Aviation Technical Advisory Committee (ATAC). The ATAC is a partnership between the airports, transportation agencies and commissions, experts, and other community members.

Project Level Mitigation Measures

PMM NOISE-1

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to safety hazards and excessive noise in proximity to airports to be significant and unavoidable.

Impact HAZ-6 **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

Significant and Unavoidable - Mitigation Required.

The Plan would result in significant impacts in regards to impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. SCAG does not have a direct role as first response or emergency management, however SCAG can facilitate policy forums to help develop regional consensus and education on security policies and emergency responses,

assist in expediting the planning and programming of transportation infrastructure repairs after any major disasters, and leverage projects and planning functions that benefit transportation security efforts and emergency services.

Section 3.15, Public Services Fire, addresses the potential for the Plan to result in substantial physical impacts associated with the construction of new or physically alter fire stations that would be required to maintain acceptable service ratios and response time for fire protective services. Additionally, the county general plans include Safety Elements that discuss critical infrastructure systems and services to assure adequate circulation, communications, and transportation services. Depending upon the timing, location, and duration of construction activities from transportation projects included in the Plan, traffic and/or road closures in grade crossings, arterials, interchanges, and auxiliary lanes, could delay emergency vehicle response times or otherwise disrupt delivery of emergency response services. By closing off one or more lanes of a roadway during project construction, emergency routes could be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service.

Section 3.20 Wildfire, discusses the county general plans and specific policies or goals within each to minimize the potential for personal risk and property damage from natural or manmade disasters. For example, the Ventura County General Plan includes a policy that requires “new residential subdivisions to provide not less than two means of access for emergency vehicles and resident evacuation.”⁹⁸

Goals, objectives, and policies of the Safety Elements of local general plans and other plans such as the Los Angeles County Operational Area Emergency Response Plan (ERP)⁹⁹ provide guidance during unique situations requiring an unusual or extraordinary emergency response. In Los Angeles County, the most populous county in the SCAG region, implementation of the ERP would incorporate and coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts within the County, into an efficient Operational Area organization capable of responding to any emergency using a Standard Emergency Management System,¹⁰⁰ mutual aid and other appropriate response procedures.

⁹⁸ Ventura County. 2019. *Ventura County 2040 General Plan Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed September 16, 2019.

⁹⁹ County of Los Angeles. 1998. *Los Angeles County Operational Area Emergency Response Plan*. Available online at: <https://www.caloes.ca.gov/AccessFunctionalNeedsSite/Documents/LA%20County%20OA%20Emergency%20Response%20Plan.pdf>, accessed October 24, 2019.

¹⁰⁰ California Office of Emergency Services. 2019. *Standardized Emergency Management System*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/standardized-emergency-management-system>, accessed October 24, 2019.

Cities generally provide procedures for coordination among neighboring City agencies and other jurisdictions to provide mutual assistance in the event of an emergency or natural disaster and establishment of disaster recovery programs. Compliance with these policies and plans would minimize potential interference with the City and County emergency response plans from construction and operational activities resulting from implementing the Plan.

Larger cities (such as the City of Los Angeles, the largest city in the SCAG region) have an Emergency Operations Organization (EOO).¹⁰¹ The City of Los Angeles EOO implements the goals and policies of the City's Safety Element. The Safety Element outlines the scope of the EOO's on-going efforts to use experiences and new information to improve the City's hazard program. The City of Los Angeles EOO Master Plan and individual agency Emergency Response Plans set forth procedures for City personnel to follow in the event of an emergency situation stemming from natural disasters, technological incidents and nuclear defense operations, and other unforeseeable disasters or crises. The City of Los Angeles Department of Transportation and LAFD are responsible for ensuring that future development does not impair or physically interfere with an adopted emergency response or evacuation plan.

The Plan's land use strategies generally aim to focus new growth in areas well-served by transit, and HQTAs including livable corridors, that allow residents to be closer to jobs and recreational and active transportation amenities and opportunities, to increase mobility and accessibility, and to shift growth away from high value habitat areas. Thus, if the Plan's land use strategies are implemented, population density in urbanized areas would increase which may improve emergency response by eliminating the need to travel to more rural and dispersed locations in the region. Alternatively, large concentrations of people could also cause adverse effects related to implementation of emergency plans because the increased population may overburden adopted evacuation routes and other emergency response resources during emergency conditions.

The proposed transportation projects would generally increase mobility and circulation capacity and may therefore have the potential to improve response times for police, fire and emergency service providers. However, despite the efforts of the land use strategies and transportation projects included in the Plan, congestion would likely increase in existing and new urban development, like HQTAs, and existing communities in cities and counties in the SCAG region, which could adversely affect emergency access.

As part of standard development procedures in most cities, plans are submitted for review and approval to ensure all new development has adequate emergency access and escape routes (clearly marked and delineated) in compliance with existing regulations. The Plan would not introduce any features that

¹⁰¹ City of Los Angeles. *Emergency Operations Organization*. Available online at: <https://emergency.lacity.org/eoo>, accessed October 24, 2019.

would preclude implementation of or alter these policies or procedures in any way, or impair implementation of, or physically interfere with the SEP or the ERP (and similar county-wide plans).

While the Plan would increase hours of delay at the regional level, there is no direct relationship between increased travel delay and emergency response times as California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed. The impact on response times and overall fire service is not proportional to increasing traffic (see **Section 3.17, Transportation, Traffic and Safety**, of this PEIR, for additional discussion about how the Plan would affect traffic). Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays. Nonetheless, the potential exists for the Plan to interfere with emergency response plans, mitigation is required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HAZ-1** through **SMM HAZ-5** and **SMM TRA-5**.

Project Level Mitigation Measures

See **PMM HAZ-1** through **PMM HAZ-4** and **PMM TRA-5**.

PMM HAZ-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Continue to coordinate locally and regionally based on ongoing review and integration of projected transportation and circulation conditions.
- b) Develop new methods of conveying projected and real time information to citizens using emerging electronic communication tools including social media and cellular networks;

- c) Continue to evaluate lifeline routes for movement of emergency supplies and evacuation.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the Plan's potential to result in increased congestion, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to emergency response to be significant and unavoidable.

Impact HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

This question is addressed in **Section 3.20, Wildfire, Impact WF-2.**

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3.10 HYDROLOGY AND WATER QUALITY

This section of the Program Environmental Impact Report (PEIR) describes the existing hydrology and water quality conditions within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect hydrology and water quality, and analyzes the potential impacts of the Connect SoCal Plan (Connect SoCal”; “Plan”) to affect water quality, result in substantial siltation or erosion or flooding due to the alteration of drainage patterns, and deplete groundwater supplies or interfere with groundwater recharge. In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.10.1 ENVIRONMENTAL SETTING

3.10.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for hydrology and water quality are provided.

Best Management Practices (BMPs): For purposes of this PEIR, A BMP is any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces storm water pollution. Generally, BMPs focus on water quality problems caused by increased impervious surfaces from land development. BMPs are designed to reduce stormwater volume, peak flows, and/or nonpoint source pollution through evapotranspiration, infiltration, detention, and filtration or biological and chemical actions.

Ephemeral Drainages: An ephemeral stream or drainage has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Hydrologic Unit Code (HUC): The United States is divided and sub-divided into successively smaller hydrologic units which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.

1. The first level of classification divides the United States into 21 major geographic areas, or regions. These geographic areas contain either the drainage area of a major river, such as the Missouri region, or the combined drainage areas of a series of rivers, such as the California region.
2. The second level of classification divides the 21 regions into 221 subregions. A subregion includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin(s), or a group of streams forming a coastal drainage area.
3. The third level of classification subdivides many of the subregions into accounting units. These 378 hydrologic accounting units are nested within, or can be equivalent to the subregions.
4. The fourth level of classification is the cataloging unit, the smallest element in the hierarchy of hydrologic units. A cataloging unit is a geographic area representing part or all of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. There are 2,264 Cataloging Units in the country.

Impaired Waters: Under section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards of the jurisdiction. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters.

Mudflow: Mudflows result from the downslope movement of soil and/or rock under the influence of gravity.

National Flood Insurance Program (NFIP): The National Flood Insurance Program aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners, renters and businesses and by encouraging communities to adopt and enforce floodplain management regulations.

Non-Point Source Runoff: Runoff that occurs on surfaces before reaching a channel is also called a nonpoint source. If a nonpoint source contains man-made contaminants, the runoff is called nonpoint source pollution. A land area which produces runoff that drains to a common point is called a drainage basin. When runoff flows along the ground, it can pick up soil contaminants including, but not limited to, petroleum, pesticides, or fertilizers that become discharge or nonpoint source pollution.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Runoff: Runoff is the water flow that occurs when the soil is infiltrated to full capacity and excess water from rain, meltwater, or other sources flows over the land. This is a major component of the water cycle, and the primary agent in water erosion. In addition to causing water erosion and pollution, surface runoff in urban areas is a primary cause of urban flooding, which can result in property damage, damp and mold in basements, and street flooding.

Regional Water Quality Control Board: As a result of the Porter-Cologne Act, nine RWQCBs were established that exercise rulemaking and regulatory activities by basin. Each RWQCB conducts a broad range of activities to protect ground and surface water resources within their respective jurisdictions. Six of the nine RWQCBs (either wholly or in part) have jurisdiction that includes portions of the SCAG region as shown in **Figure 3.10-1, Regional Water Quality Control Boards:**

- *Region 3—Central Coast RWQCB.* The Central Coast RWQCB jurisdiction includes Santa Clara (south of Morgan Hill), San Mateo (southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (northern portion) counties.
- *Region 4—Los Angeles RWQCB.* The Los Angeles RWQCB jurisdiction includes the coastal watersheds of Los Angeles and Ventura Counties, along with very small portions of Kern and Santa Barbara Counties.
- *Region 6—Lahontan RWQCB.* The jurisdiction of the Lahontan RWQCB extends from the Oregon border to the northern Mojave Desert and includes all of California east of the Sierra Nevada crest, including San Bernardino County and northeastern Los Angeles County.
- *Region 7—Colorado River RWQCB.* The Colorado River RWQCB jurisdiction includes Imperial, San Bernardino, Riverside, and San Diego counties.
- *Region 8—Santa Ana RWQCB.* The Santa Ana RWQCB jurisdiction includes Orange, Riverside, and San Bernardino counties.
- *Region 9—San Diego RWQCB.* The San Diego RWQCB includes San Diego, Imperial, and Riverside counties.

Seiche: A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank.

Storm Water Pollution Prevention Plan (SWPPP): A plan created by constructors to show their plans for sediment and erosion control. Typically, these plans are part of an overall design that details procedures to be followed during various phases of construction. This is required by a federal regulation governing stormwater runoff from active construction sites that are more than one acre in area.

Total Maximum Daily Loads (TMDL): A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

Tsunami: A tsunami is a great sea wave produced by a significant undersea disturbance.

Waters of the United States: the definition of “waters of the United States” are regulatory definitions of “waters of the United States” are those portions of 33 CFR part 328 and 40 CFR parts 110, 112, 116, 117, 122, 230, 232, 300, 302, and 401 as they existed immediately prior to the 2015 Rule's amendments (see discussion below in Regulatory Background). For example, pursuant to 40 CFR 230.3(s), the term “waters of the United States” means:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
6. The territorial sea;

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

3.10.1.2 Hydrologic Regions

The Department of Water Resources (DWR) has divided the state into ten hydrologic regions, corresponding to the state's major water drainage basins. The SCAG region is divided into four hydrologic regions: Central Coast, Colorado River, South Coast, and South Lahotan. The hydrologic regions are described below.¹

Central Coast

The Central Coast Hydrologic Region runs along California's central coast, stretching from Santa Cruz County down to Santa Barbara County and the northwest corner of Ventura County. Due to the thriving agriculture and viticulture business in the area, the region is the most groundwater-dependent hydrologic region in California. Approximately 80 percent of water demands in the region are met via groundwater extraction. Additional water is supplemented from the State Water Project (SWP) and the Central Valley Project. Due to the extent of groundwater extraction, the Central Coast faces challenges such as groundwater basin overdraft, seawater intrusion, and water quality degradation.²

Colorado River

The Colorado River Hydrologic Region covers approximately 13 million acres of southeast California. Imperial County, and large parts of Riverside and San Bernardino counties are within this hydrologic region. It is the most arid hydrologic region in California, with less than an average of six inches of precipitation falling annually. Groundwater aquifers are a vital water resource for communities in the area, as is the Colorado River, which serves as the main tributary of the region. Overdraft and leaking underground storage tanks pose legitimate issues to water availability and quality in the region.³

¹ Public Policy Institute of California. *California Hydrologic Regions and Counties*. Available online at: <https://www.ppic.org/map/california-hydrologic-regions-and-counties/>, accessed August 27, 2019.

² Department of Water Resources. *California Water Update 2018: Central Coast Hydrologic Region Report*. October. Available online at: cwpc@water.ca.gov, accessed August 27, 2019.

³ Ibid

South Coast

The South Coast Hydrologic Region is comprised of approximately 6.8 million acres in the southwestern portion of the state. The region is bounded to the south by Mexico and the Pacific Ocean to the west. Most of the region falls within SCAG's jurisdiction, including parts of Ventura, Orange, Los Angeles, Riverside, and San Bernardino counties. Approximately 50 percent of the population of California lives within this region and as such, it maintains the highest population density of any hydrologic region. Groundwater provides about 25 percent of water demand in the region, which contains 56 delineated groundwater basins.⁴

South Lahontan

The South Lahontan Hydrologic Region covers over 21 million acres of eastern California. The region contains the highest (Mount Whitney) and lowest (Death Valley) surface elevations of the state and the contiguous U.S. Annual precipitation is approximately eight inches and a significant amount of water rights in the region belong to the Los Angeles Department of Water and Power (LADWP). SCAG counties within the South Lahontan Hydrologic Region include San Bernardino and Los Angeles. The 223-mile long Los Angeles Aqueduct is the region's major water development feature. The aqueduct system provides large quantities of power and water to the region, though 41 percent of water supply is provided by groundwater.⁵

3.10.1.3 Regional Water Quality Control Boards

The four hydrologic regions in the SCAG region are managed by six Regional Water Quality Control Boards (RWQCBs): The Central Coast, Los Angeles, Lahontan, Colorado River, Santa Ana and the San Diego RWQCB. The purpose of the RWQCBs is to manage and improve water supplies within the region, by addressing groundwater pumping, water quality protection and restoration, and sharing information between water boards across the state. Each board has seven part-time board members, appointed by the Governor, who make critical decisions including setting water quality standards, issuing permits, and determining and enforcing compliance. Furthermore, each RWQCB completes, reviews, and updates a Basin Plan, designed specifically to each region's climate and topography. Basin Plans are designed to preserve and enhance water quality, as well as protect the beneficial uses of all regional waters. Each Basin Plan designates beneficial uses, sets protection goals to comply with the state's anti-degradation policy, and describes protection programs. By incorporating all applicable water rules and regulations, the Basin Plans serve as a resource for agencies involved with water, wastewater, discharge,

⁴ Ibid

⁵ Ibid

environmental permitting, and resource management, as well as the public interested in local water quality issues.

3.10.1.4 Surface Hydrology

Surface water hydrology refers to surface water systems, including watersheds, floodplains, rivers, streams, lakes, and reservoirs.

Watersheds

Watersheds refer to areas of land, or a basin, in which all waterways drain to one specific outlet, or body of water, such as a river, lake, ocean, or wetland. Watersheds have topographical divisions such as ridges, hills, or mountains. All precipitation that falls within a given watershed, or basin, eventually drains into the same body of water. As shown in **Figure 3.10-2, Watersheds in the SCAG Region**, there are 19 watersheds in the SCAG region: the Aliso-San Onofre Watershed, Antelope-Fremont Valleys Watershed, Ballona Creek Watershed, Calleguas Creek Watershed, Imperial Reservoir Watershed, Los Angeles River Watershed, Lower Colorado Watershed, Malibu Creek Watershed, Mojave Watershed, Newport Bay Watershed, Salton Sea Watershed, Santa Ana River Watershed, Santa Clara River Watershed, San Gabriel River Watershed, San Jacinto Watershed, Santa Monica Bay Watershed, Seal Beach-Westminster Watershed, Southern Mojave Watershed, Ventura River Watershed.⁶

Watersheds are an essential part of the landscape, ecological composition, economy, and life, especially in Southern California and the SCAG region where arid conditions place great emphasis on the necessity of water. Unfortunately, water resources in the SCAG region have been degraded by a multitude of factors. Agricultural run-off, mining operations, loss of habitat, illegal dumping, and eutrophication are just some of the causes of impaired water quality. As climate change affects precipitation patterns and drought conditions become more severe, water resources must be carefully managed to ensure their protection. In particular, groundwater pumping must be performed with caution so as to prevent saltwater intrusion or permanent aquifer subsidence.

Drainages

Despite its primarily arid climate, the SCAG region has a variety of surface water resources, such as creeks, rivers, lakes, and reservoirs. Due to the dry climate of the region, many rivers and creeks are intermittent or ephemeral, drying up in the summer or flowing only in reaction to precipitation. Annual

⁶ USGS. 2018. *Watershed Boundary Dataset*. Available online at: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/watershed-boundary-dataset?qt-science_support_page_related_con=4#qt-science_support_page_related_con, accessed January 10, 2019.

rainfall amounts vary depending on elevation and proximity to the coast. Some waterways in the region, like the Los Angeles River, maintain a perennial flow due to agricultural irrigation and urban landscape watering.

Most waterways in California have been diverted for agricultural and economic purposes. Within the SCAG region, surface waters such as Los Angeles River, San Gabriel River, and the San Jacinto River have been dammed, redirected, and paved for human uses and as flood control measures. The Salton Sea is a man-made inland sea that resulted from the diversion of the Colorado River around 1905. The drainage reservoir serves Imperial County and would dry up without agricultural runoff flows.⁷ Other major natural surface waters like the Ventura River, Santa Clara River, Santa Ana River, and portions of the Santa Margarita River maintain more natural conditions and flows and support aquatic species and natural habitats. All surface water drainages suffer from water quality impacts such as overuse, erosion, and illegal dumping.

Lakes and Reservoirs

Most lakes in southern California have been generated by humans, through manual digging and/or the damming of rivers across the state. Lakes and reservoirs serve as important habitat as well as recreational purposes; however, the most vital uses include agricultural irrigation, flood control, and drinking water, all of which are imperative to life in the semi-arid climate. Major lakes in the SCAG region include Big Bear Lake, Lake Arrowhead, Lake Casitas, Diamond Valley Lake, and the Salton Sea.

Big Bear Lake and Lake Arrowhead are located in San Bernardino County and were created via the damming of rivers. Big Bear Lake was created in 1884 and has no tributary inflow, replenishing itself solely by snowmelt. The dam at Lake Arrowhead was completed in 1922 and the lake is still used for recreation and potable water. Damming also created Lake Casitas in Ventura County⁸ and the Salton Sea, which is one of the saltiest bodies of water on earth due to evaporation and agricultural runoff.⁹ Diamond Valley Lake is the newest and largest reservoir in Southern California, holding 800,000 acre-feet (af) of water. While the lake is situated in Riverside County, it is connected to the State Water Project

⁷ The Salton Sea Authority. *Timeline of Salton Sea*. Available online at: <http://saltonseaauthority.org/get-informed/history/>, accessed August 27, 2019.

⁸ U.S. Bureau of Reclamation. *Casitas Dam*. Available online at: <https://www.usbr.gov/projects/index.php?id=276>, accessed August 27, 2019.

⁹ The Salton Sea Authority. *Timeline of Salton Sea*. Available online at: <http://saltonseaauthority.org/get-informed/history/>, accessed August 27, 2019.

(SWP) and serves as an important resource for potable water and hydroelectric power throughout the SCAG region.¹⁰

Coastal Waters

Three counties in the SCAG region border the Pacific Ocean and contain coastal waters such as bays, estuaries, beaches, and open ocean. Santa Monica Bay comprises a large portion of the region's open coastal waters and important harbors include the Los Angeles/Long Beach Harbor complex and Port Hueneme. Important estuaries, providing unique and critical habitat for wildlife, include coastal lagoons and wetlands. Unfortunately, coastal wetlands are negatively impacted by run-off, discharges, oil spills, dredging, illegal dumping, and natural oil seeps.¹¹

Federally Protected Wetlands and Waterways

Under Section 404 of the Clean Water Act (CWA)¹² and Section 10 of the Rivers and Harbors Act,¹³ some wetlands and waterways are federally protected by the U.S. Army Corps of Engineers (USACE). Parties must obtain special permits for discharging dredged or fill materials or pollutants into designated waters, intensifying protections for such wetlands and waterways. Designated wetlands and waterways in the SCAG region are identified in **Table 3.10-1, Federally Protected Wetlands and Waterways within the SCAG Region**, below.

¹⁰ Diamond Valley Lake. *How Deep is the Lake*. Available online at: http://www.dvlake.com/general_info02.html, accessed August 27, 2019.

¹¹ State Water Resources Control Board. 2014. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties Chapter 1: Introduction*. Available at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/electronics_documents/FinalRevisedChapter1Text.pdf, accessed September 10, 2019.

¹² U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: <https://www.epa.gov/cwa-404/overview-clean-water-act-section-404>, accessed August 27, 2019.

¹³ U.S. Environmental Protection Agency. *Section 10 of the Rivers and Harbors Appropriation Act of 1899*. Available online at: <https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>, accessed September 3, 2019.

**Table 3.10-1
Federally Protected Wetlands and Waterways within the SCAG Region**

Major River or Lake	Acres	Linear Miles
Imperial County		
Salton Sea	190,391.60	—
Los Angeles County		
Castaic Lake	2,230.82	—
Morris Reservoir	283.42	—
Puddingstone Reservoir	243.77	—
Pyramid Lake	1,177.31	—
San Gabriel Reservoir	524.85	—
Los Angeles River	—	50.73
San Gabriel River	—	59.19
Santa Clara River	—	43.86
Orange County		
Irvine Lake	445.54	—
San Gabriel River	—	0.35
Santa Ana River	—	27.18
Riverside County		
Diamond Valley Lake	4,057.69	—
Lake Elsinore	3,308.69	—
Lake Matthews	2,666.79	—
Perris Reservoir	1,920.63	—
Salton Sea	42,537.27	—
Skinner Reservoir	790.46	—
Vail Lake	257.23	—
Santa Ana River	—	24.43
Santa Margarita River	—	5.14
San Bernardino County		
Big Bear Lake	2,692.69	—
Lake Arrowhead	735.62	—
Silverwood Lake	905.09	—
Santa Ana River	—	43.86
Ventura County		
Lake Casitas	2,446.81	—
Lake Piru	1,220.91	—
Santa Clara River	—	39.27
TOTAL	258,837.19	294.00

Source:

U.S. Geological Survey (USGS). 2018. National Hydrology Dataset. Available online at: <http://nhd.usgs.gov/data.html>, accessed January 10, 2019.

3.10.1.5 Groundwater Hydrology

Groundwater accounts for most of the local fresh water within the SCAG region. The Central Coast and South Lahontan watersheds most heavily rely on groundwater for urban and agricultural use, although all four watersheds are dependent upon it. Drought conditions in recent years have led to groundwater overdraft and associated subsidence, in which the groundwater basin collapses with dirt and renders it unusable. Improved groundwater management and water reduction measures, as well as wet weather conditions, have assisted in lessening groundwater overdraft, however, it is still a major concern within the SCAG region and across the state, as climate change leads to more severe and volatile weather patterns and the population of the area continues to expand.¹⁴

3.10.1.6 Water Quality

Point and non-point source pollution are different forms of pollution which can damage surface water and are regulated at the federal and local level. Point source pollution refers to contaminants that enter a watershed, usually through a specific location such as a pipe. The source must be documented and the flow from the source is subject to a discharge permits issued by a Regional Water Quality Control Board. Examples of point source pollution are discharges from sewage treatment plants and industrial facilities. Because point sources are much easier to regulate than non-point sources, they were the initial focus of the 1972 CWA. Regulation of point sources since then has dramatically improved the water quality of rivers and streams throughout the country.

In contrast to point source pollution, non-point source pollution, also known as “pollution runoff,” is diffuse. Non-point pollution comes from areas (such as contaminated runoff from urban areas) and is significantly influenced by land uses. A driveway or the road in front of a house may be a source of pollution if spilled oil, leaves, pet waste, or other contaminants are washed into a storm drain. Non-point source pollution is now considered a major water quality problem in the United States.

The problem of non-point source pollution, specifically runoff pollution is especially acute in urbanized areas where a combination of impermeable surfaces, landscape irrigation, highway runoff, and illicit dumping increase the pollutant loads in stormwater. The California State Water Quality Control Board (SWQCB) has identified the following pollutants found in urban runoff as being of concern:

- **Sediment.** Excessive sediment loads in streams can interfere with photosynthesis, aquatic life respiration, growth, and reproduction.

¹⁴ United States Geological Survey. (USGS). 2018. California Water Data. Available online at: <https://ca.water.usgs.gov/data/>, accessed January 8, 2019.

- **Nutrients.** Nitrogen and phosphorus can result in eutrophication of receiving waters (excessive or accelerated growth of vegetation or algae), reducing oxygen levels available for other species.
- **Bacteria and viruses.** Pathogens introduced to receiving waters from animal excrement in the watershed and by septic systems can restrict water contact activities.
- **Oxygen demanding substances.** Substances such as lawn clippings, animal excrement, and litter can reduce dissolved oxygen levels as they decompose.
- **Oil and grease.** Hydrocarbons from automobiles are toxic to some aquatic life.
- **Metals.** Lead, zinc, cadmium, and copper are heavy metals commonly found in stormwater. Other metals introduced by automobiles include chromium, iron, nickel, and manganese. These metals can enter waterways through storm drains along with sediment, or as atmospheric deposition.
- **Toxic pollutants.** Pesticides, phenols, and polynuclear aromatic hydrocarbons (PAHs) are toxic organic chemicals found in stormwater.
- **Floatables.** Trash in waterways increases metals and toxic pollutant loads in addition to undesirable aesthetic impacts.

EPA lists impaired and threatened waters under CWA Section 303(d).¹⁵ The state then identifies the pollutant causing the impairment and develops rules and guidelines towards its improvement. There are more than 200 impacted waterways and water bodies within the SCAG region (**Table 3.10-2, Impaired Surface Water Bodies in the SCAG Region**).¹⁶ Poor water management and overuse in Southern California has led to problems with salinity, Polychlorinated biphenyls (PCBs), pathogens and bacteria, overwhelming nutrients, lead, sulfates, uranium, and disinfection byproducts (DBPs).

¹⁵ U.S. Environmental Protection Agency. 2018. *Clean Water Act Section 303(d): Impaired Waters and Total Maximum Daily Loads (TMDLs)*. Available online at: <https://www.epa.gov/tmdl>, accessed August 27, 2019.

¹⁶ U.S. Environmental Protection Agency (EPA). 2016. *California Water Quality Assessment Reports*. Available online at: https://ofmpub.epa.gov/waters10/attains_state.control?p_state=CA, accessed January 8, 2019.

**Table 3.10-2
Impaired Surface Water Bodies in the SCAG Region**

Pollutant	Impaired Water Body
Central Coast	
Boron	Cuyama River (above Twitchell Reservoir)
	Rincon Creek
Colorado River Basin	
Chlordane	Alamo River
	Imperial Valley Drains
DDT (Dichlorodiphenyltrichloroethane)	Coachella Valley Storm Water Channel
	Palo Verde Outfall Drain and Lagoon
Selenium	Colorado River (Imperial Reservoir to California-Mexico Border)
Toxaphene	New River (Imperial County)
Lahontan	
Arsenic	Amargosa River (Upper Canyon to Willow Creek confluence)
Fluoride	Mojave River (Mojave Forks Reservoir outlet to Upper Narrows)
	Mojave River (Upper Narrows to Lower Narrows)
Nitrate	Sheep Creek
Total Dissolved Solids	Crab Creek
	Holcomb Creek
Los Angeles	
Algae	Lindero Creek Reach 1
	Lindero Creek Reach 2 (Above Lake)
	Medea Creek Reach 1 (Lake to Confl. with Lindero)
	Medea Creek Reach 2 (Abv Confl. with Lindero)
	Ventura River Estuary
	Ventura River Reach 1 and 2 (Estuary to Weldon Canyon)
Ammonia	Calleguas Creek Reach 2 (estuary to Potrero Rd- was Calleguas Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 3 (Potrero Road upstream to confluence with Conejo Creek on 1998 303d list)
	Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 9B (was part of Conejo Creek Reaches 1 and 2 on 1998 303d list)
	Calleguas Creek Reach 10 (Conejo Creek (Hill Canyon)-was part of Conejo Crk Reaches 2 & 3, and lower Conejo Crk/Arroyo Conejo N Fk on 1998 303d list)
	Calleguas Creek Reach 11 (Arroyo Santa Rosa, was part of Conejo Creek Reach 3 on 1998 303d list)
	Calleguas Creek Reach 12 (was Conejo Creek/Arroyo Conejo North Fork on 1998 303d list)
	Calleguas Creek Reach 13 (Conejo Creek South Fork, was Conejo Cr Reach 4 and part of Reach 3 on 1998 303d list)
	Coyote Creek
	Dominguez Channel (lined portion above Vermont Ave)

Pollutant	Impaired Water Body
	Los Angeles River Reach 1 (Estuary to Carson Street)
	Los Angeles River Reach 2 (Carson to Figueroa Street)
	Los Angeles River Reach 3 (Figueroa St. to Riverside Dr.)
	Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam)
	Los Angeles River Reach 5 (within Sepulveda Basin)
	San Jose Creek Reach 1 (SG Confluence to Temple St.)
	Santa Clara River Reach 3 (Freeman Diversion to A Street)
	Sepulveda Canyon
	Tujunga Wash (LA River to Hansen Dam)
Beach Closures	Robert H. Meyer Memorial Beach
Benthic-Macrobenthic Bioassessments	Arroyo Seco Reach 1 (LA River to West Holly Ave.)
	Compton Creek
	Las Virgenes Creek
	Malibu Creek
	Triunfo Canyon Creek Reach 2
	Walnut Creek Wash (Drains from Puddingstone Res)
Bis(2ethylhexyl)phthalate (DEHP)	Sawpit Creek
Boron	Calleguas Creek Reach 8 (was Tapo Canyon Reach 1)
	Fox Barranca (tributary to Calleguas Creek Reach 6)
	Santa Clara River Reach 11 (Piru Creek, from confluence with Santa Clara River Reach 4 to gaging station below Santa Felicia Dam)
Cadmium	Ballona Creek Estuary
Cadmium (sediment)	Ballona Creek
ChemA (tissue)	Calleguas Creek Reach 5 (was Beardsley Channel on 1998 303d list)
	Calleguas Creek Reach 9A (was lower part of Conejo Creek Reach 1 on 1998 303d list)
	Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No 2
	Rio De Santa Clara/Oxnard Drain No. 3
Chloride	Piru Creek (from gaging station below Santa Felicia Dam to headwaters)
	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Hwy 99 Bridge) (was named Santa Clara River Reach 7 on 2002 303(d) list)
	Santa Clara River Reach 6 (W Pier Hwy 99 to Bouquet Cyn Rd) (was named Santa Clara River Reach 8 on 2002 303(d) list)
	Sespe Creek (from 500 ft below confluence with Little Sespe Cr to headwaters)
Chlorpyrifos (tissue)	Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Avenue on 1998 303d list)
Coliform Bacteria	Arroyo Seco Reach 2 (West Holly Ave to Devils Gate Dam)
	Bell Creek
	Big Rock Beach
	Dan Blocker Memorial (Coral) Beach
	Las Flores Beach
	Leo Carillo Beach (South of County Line)
	Long Point Beach
	Los Angeles River Reach 6 (Above Sepulveda Flood Control Basin)
	Malibu Lagoon Beach (Surfrider)
	Palo Comado Creek

Pollutant	Impaired Water Body
	Redondo Beach Rio Hondo Reach 1 (Confl. LA River to Snt Ana Fwy) Rio Hondo Reach 2 (At Spreading Grounds) San Gabriel River Reach 1 (Estuary to Firestone) San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam) San Jose Creek Reach 2 (Temple to I-10 at White Ave.) Santa Clara River Reach 7 (Bouquet Canyon Rd to above Lang Gaging Station) (was named Santa Clara River Reach 9 on 2002 303(d) list) Stokes Creek Topanga Beach Torrance Beach Torrance Carson Channel Verdugo Wash Reach 1 (LA River to Verdugo Rd.) Wilmington Drain
Copper	Aliso Canyon Wash Burbank Western Channel San Gabriel River Estuary
DDT (Dichlorodiphenyltrichloroethane)	Amarillo Beach Bluff Cove Beach Cabrillo Beach (Outer) Carbon Beach Castlerock Beach Escondido Beach Flat Rock Point Beach Area Inspiration Point Beach La Costa Beach Las Tunas Beach Malaga Cove Beach Malibu Beach Nicholas Canyon Beach Paradise Cove Beach Point Dume Beach Point Fermin Park Beach Portuguese Bend Beach Puerco Beach Royal Palms Beach Sea Level Beach Trancas Beach (Broad Beach) Ventura Marina Jetties Whites Point Beach Zuma Beach (Westward Beach)
DDT (sediment)	Abalone Cove Beach
Fecal Coliform	Canada Larga (Ventura River Watershed) Dry Canyon Creek

Pollutant	Impaired Water Body
	McCoy Canyon Creek
Fish Barriers (Fish Passage)	Matilija Creek Reach 1 (Jct. With N. Fork to Reservoir)
	Matilija Creek Reach 2 (Above Reservoir)
Indicator Bacteria	Artesia-Norwalk Drain
	Avalon Beach
	Bull Creek
	Channel Islands Harbor Beach
	Coyote Creek, North Fork
	Dockweiler Beach
	Hermosa Beach
	Hobie Beach (Channel Islands Harbor)
	Long Beach City Beach
	Lunada Bay Beach
	Manhattan Beach
	Marina del Rey Harbor Beach
	Ormond Beach
	Peninsula Beach
	Point Vicente Beach
	Promenade Park Beach
	Puente Creek
	Resort Point Beach
	Rincon Beach
	San Antonio Creek (Tributary to Ventura River Reach 4)
	San Buenaventura Beach
	San Gabriel River Reach 3 (Whittier Narrows to Ramona)
	Santa Monica Beach
	Santa Monica Canyon
	Surfers Point at Seaside
	Venice Beach
	Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr)
	Will Rogers Beach
Invasive Species	Solstice Canyon Creek
Lead	Monrovia Canyon Creek
	Topanga Canyon Creek
	Triunfo Canyon Creek Reach 1
Nitrate and Nitrite	Brown Barranca/Long Canyon
	Mint Canyon Creek Reach 1 (Confl to Rowler Cyn)
	Torrey Canyon Creek
	Wheeler Canyon/Todd Barranca
Pathogens	Palo Verde Shoreline Park Beach
Pumping	Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd)
Sulfates	Hopper Creek
	Pole Creek (trib to Santa Clara River Reach 3)

Pollutant	Impaired Water Body
Toxicity	Santa Clara River Reach 1 (Estuary to Hwy 101 Bridge)
Trash	San Gabriel River, East Fork
	Verdugo Wash Reach 2 (Above Verdugo Road)
San Diego	
Benzo[b]fluoranthene	English Canyon
Cadmium	Prima Deshecha Creek
Chloride	Oso Creek (at Mission Viejo Golf Course)
Chlorpyrifos	Long Canyon Creek (tributary to Murrieta Creek)
	Murrieta Creek
	Redhawk Channel
	Santa Gertrudis Creek
	Temecula Creek
	Warm Springs Creek (Riverside County)
	Long Canyon Creek (tributary to Murrieta Creek)
DDE (Dichlorodiphenyldichloroethylene)	Murrieta Creek
Diazinon	San Juan Creek
Enterococcus	Arroyo Trabuco Creek
	Pacific Ocean Shoreline, Aliso HSA, at Aliso Beach - middle
	Pacific Ocean Shoreline, Aliso HSA, at Aliso Creek mouth
	Pacific Ocean Shoreline, Lower San Juan HSA, at North Beach Creek
	Pacific Ocean Shoreline, Lower San Juan HSA, at South Doheny State Park Campground
	Pacific Ocean Shoreline, San Clemente HA, at San Clemente City Beach at Pier
Indicator Bacteria	Pacific Ocean Shoreline, San Clemente HA, at South Capistrano County Beach
	Aliso Creek
Iron	Pacific Ocean Shoreline, Dana Point HSA, at Aliso Beach at West Street
	De Luz Creek
Phosphorus	Santa Margarita River (Upper)
	Segunda Deshecha Creek
Sediment Toxicity	Laguna Canyon Channel
Selenium	Moro Canyon Creek
	Oso Creek (lower)
Total Coliform	Pacific Ocean Shoreline, Dana Point HSA, at Salt Creek outlet at Monarch Beach
	Pacific Ocean Shoreline, Laguna Beach HSA, at Main Beach
Santa Ana	
Ammonia (Unionized)	Bolsa Chica Channel
	Borrego Creek (from Irvine Blvd to San Diego Creek Reach 2)
	East Garden Grove Wintersburg Channel
	Serrano Creek
Cadmium	Cucamonga Creek Reach 1 (Valley Reach)
	Rathbone (Rathbun) Creek
	Santa Ana River Reach 6
Chemical oxygen demand (COD)	Chino Creek Reach 1B (Mill Creek confl to start of concrete lined channel)
Coliform Bacteria	Chino Creek Reach 2 (Beginning of concrete channel to confl w San Antonio Creek)

Pollutant	Impaired Water Body
Copper	Bolsa Chica State Beach
	Santa Ana River, Reach 3
DDT (Dichlorodiphenyltrichloroethane)	Balboa Beach
	Peters Canyon Channel
Enterococcus	Newport Slough
	Seal Beach
Fecal Coliform	Buck Gully Creek
	Los Trancos Creek (Crystal Cove Creek)
	San Diego Creek Reach 1
Indicator Bacteria	Goldenstar Creek
	Morning Canyon Creek
	San Diego Creek Reach 2
	Santa Ana Delhi Channel
	Santa Ana River, Reach 2
	Temescal Creek, Reach 6 (Elsinore Groundwater sub basin boundary to Lake Elsinore Outlet)
Nutrients	Chino Creek Reach 1A (Santa Ana River R5 confl to just downstream of confl with Mill Creek)
	Grout Creek
	Mill Creek (Prado Area)
	Summit Creek
Pathogens	Knickerbocker Creek
	Lytle Creek
	Mill Creek Reach 1
	Mill Creek Reach 2
	Mountain Home Creek
	Mountain Home Creek, East Fork
	Santa Ana River, Reach 4
	Silverado Creek
PCBs (Polychlorinated biphenyls)	Huntington Beach State Park
pH	Cucamonga Creek Reach 2 (Mountain Reach)
	San Antonio Creek
	Temescal Creek, Reach 1
Salinity/TDS/Chlorides	Santiago Creek, Reach 4

Source: State Water Resources Control Board. 2016. 2016 303(d) List of Impaired Waterbodies. Available at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed September 3, 2019.

Land Use and Water Quality

Buildings, roads, sidewalks, parking lots, and other impervious surfaces define the urban landscape. Impervious surfaces also alter the natural hydrology and prevent the infiltration of water into the ground. Impervious surfaces change the flow of stormwater over the landscape. In underdeveloped

areas, vegetation holds down soil, slows the flow of stormwater over land, and filters out some pollutants by both slowing the flow of the water and trapping some pollutants in the root system. Additionally, some stormwater filters through the soil, replenishing underground aquifers. As land is converted to other uses such as commercial or residential development, many of these natural processes are eliminated as vegetation is cleared and soil is paved over. As more impervious surface coverage is added to the landscape, more stormwater flows faster off the land. The greater volume of stormwater increases the possibility of flooding, and the high flow rates of stormwater do not allow for pollutants to settle out, meaning that more pollution gets concentrated in the stormwater runoff. Research on urban stream protection has found that stream degradation occurs when a watershed reaches relatively low levels of imperviousness—in the range of 10 to 20 percent. Water quality degradation can occur when impervious surface coverage in a watershed surpasses 10 percent.¹⁷ Fish habitat, spawning, and diversity suffer when imperviousness is greater than 10 to 12 percent. Wetland plants and amphibian populations diminish when impervious surfaces are greater than 10 percent. Generally, the higher the percentage of impervious surface, the greater the degradation in stream water quality.¹⁸ Based on this research, streams can be considered stressed in watersheds when the impervious coverage exceeds 10 to 15 percent. The link between impervious surfaces and degraded water quality points to the need for careful comparisons between dispersed and compact development strategies. On a regional or watershed level, greater overall water quality protection is achieved through more concentrated or clustered development. Concentrated development protects the watershed by leaving a larger percentage of it in its natural condition.

Waste Discharge Requirements

If the operation or discharges from a property or business affects California's surface, coastal, or groundwater, it would normally be required to obtain a permit to discharge waste from the appropriate RWQCB. Discharges of pollutants into surface waters require a federal NPDES permit application with the appropriate RWQCB.¹⁹ For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land) a report of waste

¹⁷ Hakkam, Kim, et al. The Impact of Impervious Surface on Water Quality and Its Threshold in Korea. *Water*. 2016. Available online at: <https://pdfs.semanticscholar.org/5c51/42d64aabcd1fbdf3c73313836dad5aead48.pdf>, accessed August 27, 2019.

¹⁸ Brabec, Elizabeth, et al. 2002. Imperious Surfaces and Water Quality: A Review of Current Literature and Its Implications on Watershed Planning. *Journal of Planning Literature*. Available online at: <https://pdfs.semanticscholar.org/e62b/8c92c2547bab312fa7ed173ce12ce31d5724.pdf?ga=2.79098964.1532995814.1568152933-155264741.1568152933>, accessed September 10, 2019.

¹⁹ U.S. Environmental Protection Act. *NPDES Permit Basics*. Available online at: <https://www.epa.gov/npdes/npdes-permit-basics>, accessed August 27, 2019.

discharge must be filed with the appropriate RWQCB in order to obtain Waste Discharge Requirements (WDRs).

For specific situations, the RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR.

RWQCBs in the SCAG region have identified a typical list of activities that affect water, but the list is by no means inclusive of all situations:

- Discharge of process wastewater not discharging to a sewer (factories, cooling water, etc.)
- Confined Animal facilities (dairies, feedlots, etc.)
- Waste containments (landfills, waste ponds, etc.)
- Construction sites
- Boatyards and shipyards
- Discharges of pumped groundwater and cleanups (underground tank cleanups, dewatering, spills)
- Material handling areas draining to storm drains
- Sewage treatment facilities
- Filling of wetlands
- Dredging, filling, and disposal of dredge wastes
- Commercial activities not discharging to a sewer (e.g., factory wastewater, storm drain)
- Waste discharges to land

3.10.1.7 Hazards

Floodplains and Flooding

Flooding generally occurs when soil and vegetation cannot absorb excess rainwater or snowmelt, and water runs off the land in quantities that cannot be carried in stream channels or kept in natural ponds or man-made reservoirs. Periodic floods occur naturally on many rivers, forming areas known as floodplains. These river floods usually result from heavy rain, sometimes combined with melting snow, which causes the rivers to overflow their banks. A flood that rises and falls rapidly with little or no

advance warning is called a flash flood. Flash floods usually result from intense rainfall over a relatively small area.

Flooding occurs occasionally on streets and roads in urbanized areas where storm waters are diverted into manmade or artificial drainage systems. In urbanized areas with significant area of impervious surfaces, storm water is not able to permeate and percolate into the soil, and is diverted into a storm drainage system. In some areas, these drainage systems are occasionally overloaded with storm water drainage, or the drains become clogged with leaves and other debris, thereby impeding storm water drainage onto transportation facilities (i.e., roadways). The ability of the storm drainage system to accommodate water flows is also largely based on ground permeability and infrastructure capacity. In metropolitan areas, agencies responsible for maintaining and upgrading drainage facilities to accommodate volume are local cities and the counties.

Principal impacts of flooding include damage to permanent structures, relocation of non-stationary objects, loss of human life, and damage to infrastructure and soil conditions. After the initial damage from floodwaters, standing water often creates a secondary level of destruction, by ruining crops, further undermining and damaging infrastructure, and contaminating water wells. Debris flows are another hazard associated with flooding, when heavy soils and rocks slide down into a valley, threatening the infrastructure below.

100-Year Floodplain

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period. The risk of this area being flooded in any century is one percent but statistically the risk is almost 40 percent in any 50-year period. Floodplain zones are determined FEMA and used to create Flood Insurance Rate Maps (FIRMs).²⁰ These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations for any construction located within a 100-year floodplain, whether residential, commercial, or industrial. Each watershed in the SCAG region has associated 100-year flood plain, with Imperial County containing the most land designated as being in the floodplain.

Seiche

A seiche is an oscillation of a body of water in an enclosed or semi enclosed basin, such as a reservoir, harbor, lake, or storage tank. Many examples of seiches can be found in Southern California, where water

²⁰ FEMA. *Flood Insurance Rate Map (FIRM)*. Available online at: <https://www.fema.gov/flood-insurance-rate-map-firm>, accessed August 27, 2019.

reservoirs have been constructed or developed by damming rivers. The seiches serve as a means of flood control and a holding tank for drinking and agricultural water. Examples of enclosed water bodies in the SCAG region include Big Bear Lake, Pyramid Lake, and the Salton Sea.

Tsunami

Tsunamis are massive waves triggered by large earthquakes along fault lines near the ocean. Tsunamis have potential to crash and flood areas much further inland than regular ocean waves. Such inundation can cause severe damage to local infrastructure and even loss of life. The three coastal counties of Los Angeles, Orange, and Ventura contain more than 25,000 acres that are susceptible to tsunamis within the SCAG region.²¹

Mudflow

Mudflows and landslides are also generated by ground-shaking seismic events. In areas with steep slopes or hillsides, mud and other debris can be triggered by an earthquake miles away and cause significant damage to infrastructure and life below. Many areas of the SCAG region are susceptible to landslides and mudflows due to the abundance of active faults and existing mudflow hazards. Landslides are discussed in further detail in **Section 3.7, Geology and Soils**.

Coastal Flooding and Sea Level Rise

During the winter months (generally November to February), offshore storms occurring over the Pacific Ocean, combined with high tides and strong winds, have the potential to result in wave run-up. In addition, as discussed above, seismically-induced waves (i.e. as the result of a tsunami event) may occur on occasion, having the potential to cause coastal flooding. Further, a short- or long-duration increase in sea level during a period of extreme precipitation and runoff may result in the potential for coastal flooding. Wave run-up along the coastal areas may also contribute to coastal flooding and erosion.

Rising sea levels will increase the potential for coastal flooding, and the issue of sea-level rise is important in land use planning and hazard analysis in coastal areas. California Executive Order S-13-08, signed by the governor on November 14, 2008, specifies that all state agencies planning construction projects in areas that are vulnerable to future sea-level rise must consider a range of scenarios for 2050 and 2100 to assess project vulnerability, and, to the extent feasible, must reduce expected risks and increase resiliency with respect to sea-level rise. Before 2050, differences in sea-level rise projections under different emissions scenarios are minor but they diverge significantly past midcentury. After 2050, sea-level rise

²¹ California Department of Conservation (DOC). 2018. *California Official Tsunami Inundation Maps*. Available online at: <https://www.conservation.ca.gov/cgs/geohazards/tsunami/maps#County>, accessed January 8, 2019.

projections increasingly depend on the trajectory of greenhouse gas emissions. For example, under certain scenarios, rapid ice sheet loss on Antarctica could drive rates of sea-level rise in California above 50 mm/year (2 inches/year) by the end of the century, leading to potential sea-level rise exceeding 10 feet. This rate of sea-level rise would be about 30-40 times faster than the sea-level rise experienced over the last century.²²

The Intergovernmental Panel on Climate Change (IPCC) has indicated that globally, sea level rose at an average annual rate of approximately 1.5 millimeters from 1901 to 1990 and at an average annual rate of approximately 3.2 millimeters from 1993 to 2010 (IPCC 2013). By year 2100, sea levels may rise up to 55 inches (1.4-meter), causing a 45 percent increase in land in Los Angeles County to become more vulnerable to the 100-year flood event. Based on mapping completed by the Pacific Institute, much of the Pacific Coast could be subject to flooding associated with a 100-year flood event with a sea-level rise of 55 inches.

3.10.2 REGULATORY FRAMEWORK

3.10.2.1 Federal Regulations

Rivers and Harbors Appropriation Act of 1899, Section 10

Authorization from the USACOE must be obtained for construction of a structure in or over any navigable water of the U.S., pursuant to Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S. Code [USC] 403). Authorization is also needed for structures built near navigable water if they would affect the course, location, condition, or capacity of the water body, as through re-channelization, disposal of fill, and so forth.²³

Wild and Scenic Rivers Act of 1968 (WSRA)

The objective of the WSRA (Public Law 90-542), dated October 2, 1968, is the preservation of certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition. The WSRA provides permanent protection for some of the country's most outstanding free flowing rivers and

²² California Ocean Protection Council. 2017. *Rising Seas in California: An Update of Sea-Level Rise Science*. Available at: <http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf>, accessed October 30, 2019.

²³ U.S. Environmental Protection Agency. 2019. *Section 10 of the Rivers and Harbors Appropriation Act of 1899*. Available online at: <https://www.epa.gov/cwa-404/section-10-rivers-and-harbors-appropriation-act-1899>, accessed August 27, 2019.

prohibits federal support for actions such as the construction of dams or other harmful instream activities.²⁴

Clean Water Act of 1972, as amended (CWA)

Congress enacted the Clean Water Act (CWA), originally enacted as the Federal Water Pollution Control Act (FWPCA; Public Law 92–500) in 1948, but took on its modern form when completely rewritten in 1972 in an act entitled the Federal Water Pollution Control Act Amendments of 1972, now commonly known as the Clean Water Act.²⁵ Major changes have subsequently been introduced via amendatory legislation including the Clean Water Act of 1977 and the Water Quality Act of 1987.

The CWA is the primary federal law governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is one of the first and most influential modern environmental laws in the U.S. As with many other major federal environmental statutes, it is administered by EPA, in coordination with state governments. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

Section 303(d)

Section 303(d) of the Federal CWA requires the SWRCB to list impaired water bodies and determine TMDLs of pollutants, sediments, or other stressors that are contributing excessively to these impaired waters.²⁶

Section 401 – Water Quality Certification

Section 401 establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. Under the CWA, EPA has implemented pollution control programs such as setting wastewater standards for industries and surface waters.²⁷

²⁴ National Park Service. 2000. *Wild and Scenic Rivers Act, 1968*. Available online at: https://www.nps.gov/parkhistory/online_books/anps/anps_6f.htm, accessed August 27, 2019.

²⁵ U.S. Environmental Protection Agency. *Summary of the Clean Water Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-clean-water-act>, accessed August 27, 2019.

²⁶ U.S. Environmental Protection Agency. *Clean Water Act Section 303(d): Impaired Water and Total Maximum Daily Loads (TMDLs)*. Available online at: <https://www.epa.gov/tmdl>, accessed August 27, 2019.

²⁷ U.S. Environmental Protection Agency. *Clean Water Act Section 401: State Certification of Water Quality*. Available online at: <https://www.epa.gov/cwa-401/clean-water-act-section-401-state-certification-water-quality>, accessed August 27, 2019.

Section 402

Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit process. In California, NPDES permitting authority is delegated to, and administered by the nine RWQCBs. Pursuant to Section 402, a discharge of any pollutant from a point source into navigable waters, are prohibited unless an NPDES permit is obtained. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.²⁸

Section 402(p) establishes that, stormwater permits are required for stormwater discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutter, ditch, man-made channels or storm drain) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or a tribe or an authorized tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States (40 CFR 122.26(b)(8)).

Section 404 – Discharge of Dredge or Fill Material

Section 404 of the federal CWA is administered and enforced by the U.S. Army Corps of Engineers (USACOE). Section 404 of the CWA established a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. USACOE administers the day-to-day program, including the determination of eligibility of projects for use of Categorical Exclusions and Nationwide Permits, and review and consideration of individual permit decisions and jurisdictional determinations. USACOE also develops policy and guidance; and enforces Section 404 provisions.²⁹

²⁸ U.S. Environmental Protection Agency. *Clean Water Act, Section 402: National Pollutant Discharge Elimination System*. Available online at: <https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system>, accessed August 27, 2019.

²⁹ U.S. Environmental Protection Agency. *Overview of Clean Water Act Section 404*. Available online at: <https://www.epa.gov/cwa-404/overview-clean-water-act-section-404>, accessed August 27, 2019.

Executive Order 11990 - Protection of Wetlands

This executive order is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. This executive order requires that when a construction project involves wetlands, a finding must be made by the federal agency that there is no practicable alternative to such construction, and that the proposed action includes all practicable measures to minimize impacts to wetlands resulting from such use.³⁰

Pollution Prevention Act of 1990

The Pollution Prevention Act (42 USC §13101 et seq.) focused on reducing the amount of pollution through cost-effective changes in production, operation, and raw materials. The Act focuses on source reduction which reduces the release of hazardous substances through practices that increase efficiency in energy, water, or other natural resources.³¹

Antidegradation Policy

The Antidegradation Policy under U.S. EPA's Water Quality Standards Regulations (48 F.R. 51400, 40 CFR 131.12, November 8, 1983), requires states and tribes to establish a three-tiered antidegradation program to prevent a decrease in water quality standards.

- Tier 1—Maintains and protects existing uses and water quality conditions that support such uses. Tier 1 is applicable to all surface waters.
- Tier 2—Maintains and protects “high quality” waters where existing conditions are better than necessary to support “fishable/swimmable” waters. Water quality can be lowered in such waters but not to the point at which it would interfere with existing or designed uses.
- Tier 3—Maintains and protects water quality in outstanding national resource waters (ONRWs). Water quality cannot be lowered in such waters except for certain temporary changes.

³⁰ U.S. Environmental Protection Agency. 2019. *Protection of Wetlands (Executive Order 11990)*. Available online at: <https://www.epa.gov/cwa-404/protection-wetlands-executive-order-11990>, accessed August 27, 2019.

³¹ U.S. Environmental Protection Agency. 2017. *Pollution Prevention Act of 1990*. Available online at: <https://www.epa.gov/p2/pollution-prevention-act-1990>, accessed August 27, 2019.

Antidegradation was explicitly incorporated into the federal CWA through 1987 amendments, codified in section 303(d)(4)(B), requiring satisfaction of antidegradation requirements before making certain changes in NPDES permits.³²

Definition of Waters of the United States (WOTUS)

On June 29, 2015, EPA and USACOE jointly published a final WOTUS Rule (40 CFR Parts 110, 112, 116, et al. and 33 CFR Part 328) for determining the extent to which wetlands and other water features are protected under the CWA.

Following publication of the 2015 WOTUS Rule, 31 states, and 53 non-state parties, including environmental groups and groups representing farming, recreational, forestry, and other interests, filed complaints and petitions for review in multiple federal district and appellate courts challenging the 2015 Rule. On February 28, 2017, the President of the United States issued Executive Order 13778 directing EPA and the Department of the Army to review and rescind or revise the 2015 Clean Water Rule. On October 22, 2019, EPA and the Department of the Army published a final rule to repeal the 2015 Rule and recodify the regulation that was in place prior to issuance of the 2015 Rule. This final rule will become effective on December 23, 2019.³³

National Flood Insurance Act

The U.S. Congress passed the National Flood Insurance Act in 1968 and the Flood Disaster Protection Act in 1973 to restrict certain types of development on floodplains and to provide for a NFIP. The purpose of these acts is to reduce the need for large, publicly funded flood control structures and disaster relief. The NFIP is a federal program administered by the Flood Insurance Administration of FEMA. It enables individuals who have property (a building or its contents) within the 100-year floodplain to purchase insurance against flood losses. FEMA works with the states and local communities to identify flood hazard areas and publishes a flood hazard boundary map of those areas. Floodplain mapping is an ongoing process and flood maps must be regularly updated for both major rivers and tributaries as land uses and development patterns change.³⁴

³² U.S. Environmental Protection Agency. 2012. *Water Quality Standards Handbook, Chapter 4: Antidegradation*. Available online at: <https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter4.pdf>, accessed August 27, 2019.

³³ U.S. Environmental Protection Agency. 2019. *Waters of the United States (WOTUS) Rulemaking*. Available at: <https://www.epa.gov/wotus-rule/rulemaking-process>, accessed October 30, 2019; see also 84 Fed. Reg. 56626 (October 22, 2019)..

³⁴ FEMA. *National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973*. Available online at: <https://www.fema.gov/media-library/assets/documents/7277>, accessed August 27, 2019.

Executive Order 11988, Flood Plain Management

The objective of Presidential Executive Order 11988, dated May 24, 1977, is the avoidance of, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of the base floodplain (100-year floodplain) and the avoidance of direct and indirect support of development in the base floodplain wherever there is a practicable alternative. Under the Executive Order, the USACOE must provide leadership and take action to:³⁵

- Avoid development in the base floodplain unless it is the only practicable alternative
- Reduce the hazard and risk associated with floods
- Minimize the impact of floods to human safety, health, and welfare
- Restore and preserve the natural and beneficial values of the base floodplain

California Toxics Rule

On May 18, 2000, USEPA promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters within California. USEPA promulgated this rule based on the USEPA Administrator's determination that the numeric criteria are necessary in California to protect human health and the environment. The rule fills a gap in California water quality standards that was created in 1994 when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants. Thus, the state of California has been without numeric water quality criteria (which is required by the CWA) for many priority toxic pollutants, necessitating this action by USEPA. These federal criteria are legally applicable in the state of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA. USEPA and the SWRCB have the authority to enforce these standards, which are incorporated into the NPDES permits that regulate existing discharges in California.

3.10.2.2 State

Porter Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and

³⁵ U.S. Fish and Wildlife Service. *Executive Order 11988 Flood plain Management*. Available online at: https://www.fws.gov/r9esnepa/NEPA_Handbook/EO_11988.pdf, accessed August 27, 2019.

nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (Basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional water quality control plans (basin plans) have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use

designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.

Sustainable Groundwater Management Act (SGMA)

On September 16, 2014 Governor Edmund G. Brown Jr. signed a three-bill package known as the Sustainable Groundwater Management Act. The legislation allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. SGMA creates a framework for sustainable, local groundwater management for the first time in California history.

The three bills that make up SGMA are Assembly Bill (AB) 1739 by Assembly Member Roger Dickinson, Senate Bill (SB) 1319, and SB 1168 by Senator Fran Pavley.³⁶

In September 2015, Governor Brown signed SB 13, by Senator Fran Pavley. The Bill makes various technical, clarifying changes to SGMA including requirements for groundwater sustainability agency formation, the process for State Water Board intervention if no responsible agency is specified for a basin, guidelines for high- and medium-priority basins, and participation of mutual water companies in a groundwater sustainability agency.³⁷

Cobey-Alquist Floodplain Management Act

The Cobey-Alquist Floodplain Management Act (California Water Code 8400-8415) and Executive Order B-39-77 support the NFIP. The Act encourages local governments to plan, adopt, and enforce land use regulations for floodplain management, to protect people and property from flooding hazards. The Act also identifies requirements that jurisdictions must meet to receive State financial assistance for flood control.³⁸ Executive Order B-39-77 requires state agency compliance with good floodplain management practices.³⁹

California Coastal Act

The California Coastal Act (Public Resources Code § 30000 et seq.), dealing with coastal development and its impacts to public access, is the primary law that governs decisions of the California Coastal

³⁶ California Department of Water Resources. 2019. *SGMA Groundwater Management*. Available online at: <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>, accessed August 27, 2019.

³⁷ California Legislative Information. 2015. *Senate Bill No. 35*.

³⁸ California Legislative Information. *Chapter 4. Cobey-Alquist Flood Management Program 8400-8415*.

³⁹ California Department of Water Resources. *Flood Map Modernization State Business Plan*. Available online at: https://www.floods.org/PDF/SBP_CA_04.pdf, accessed August 27, 2019.

Commission (CCC). Chapter 3 of the California Coastal Act contains Coastal Resources Planning and Management Policies. Policies include protection of certain water oriented recreational activities (Section 30220); minimizing the adverse effects of wastewater discharge, controlling runoff and preventing depletion of ground water supplies (Section 30231); and water supply and flood control through channelization, dams, or other substantial alternations (Section 30236).⁴⁰

State Water Resources Control Board Water Rights (SWRCB) Program

The SWRCB is responsible for administering water rights in California. It has several water rights programs including a compliance monitoring program, drought year information resources, water availability analysis, water use reports program and water quality certification. The water availability analysis program is required by the California Water Code which requires sufficient information for applications submitted to the SWRCB to demonstrate a reasonable likelihood that appropriated water is available for appropriation. The water use reports program is responsible for water use reports for water right holders and sets measurement methods for the reports.⁴¹

Lake or Streambed Alteration Program

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, Section 1600 of the California Fish and Game Code requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state, or local government agency or public utility that proposes an activity that will:⁴²

- Substantially divert or obstruct the natural flow of any river, stream or lake;
- Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake;
or
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and

⁴⁰ California Coastal Act. *Laws and Regulations. The Coastal Act.* Available online at <https://www.coastal.ca.gov/laws/>. Accessed September 3,2019

⁴¹ California Water Boards. 2019. *Programs* Available online at: https://www.waterboards.ca.gov/water_issues/programs accessed August 27, 2019.

⁴² California Legislative Information. *Chapter 6. Fish and Wildlife Protection and Conservation [1600-1617]*.

watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. In August 2005, the California Fish and Game Commission policy regarding wetlands resources stated that “it is the policy of the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California” and to “strongly discourage development in or conversion of wetlands.”⁴³ As a result, although the Commission has no independent statutory permitting authority related to wetlands, the policy underscores that the Commission does not support wetland development proposals unless “project mitigation assures there will be ‘no net loss’ of either wetland habitat values or acreage” and “prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values.” The Agreement includes reasonable conditions necessary to protect those resources and must comply with CEQA.

Statement of Policy with Respect to Maintaining High Quality Waters in California

California’s antidegradation policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California (SWRCB Resolution No. 68-16), restricts degradation of surface and ground waters. It protects waters where existing quality is higher than necessary for the protection of beneficial uses. Any actions with the potential to adversely affect water quality must 1) be consistent with maximum benefit to the people of the state, 2) not unreasonably affect present and anticipated beneficial use of the water, and 3) not result in water quality less than that prescribed in water quality plans and policies.⁴⁴ Any actions that can adversely affect surface waters are also subject to the federal antidegradation policy (40 CFR Section 131.12) developed under the CWA.

NPDES General Permits

Construction General Permit

The California Construction Stormwater Permit (Construction General Permit) 1 (also, known as Industrial General Permit), adopted by the SWRCB, regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater

⁴³ California Fish and Game Commission. *Miscellaneous Policies: Wetlands Resources*.

⁴⁴ State Water Resources Control Board. *Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf, accessed August 27, 2019.

discharges and all discharges that contain a hazardous substance in excess of reportable quantities established in Title 40, Sections 117.3 or 302.4 of the CFR, unless a separate NPDES permit has been issued to regulate those discharges. The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a risk assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the US;
- Develop and implement a SWPPP, which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/ Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

To obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all permit registration documents with the SWRCB before the start of construction. Permit registration documents must include:

- Notice of Intent,
- Risk Assessment,
- Site Map,
- SWPPP,
- Annual Fee, and
- Signed Certification Statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.⁴⁵

⁴⁵ State Water Resources Control Board. *Construction General Permit Fact Sheet*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_compl_ete.pdf, accessed August 27, 2019.

Industrial General Permit

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United States.⁴⁶

Municipal Stormwater Program

The Municipal Storm Water Program regulates storm water discharges from municipal separate storm sewer systems (MS4s) throughout California. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The Municipal Storm Water Program manages the Phase I Permit Program (serving municipalities over 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans).⁴⁷

Caltrans is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities.⁴⁸ On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013.⁴⁹

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- ⁴⁶ State Water Resources Control Board. *Industrial Stormwater Program*. See https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html, accessed August 27, 2019.
- ⁴⁷ State Water Resources Control Board. *Municipal Stormwater Program*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html, accessed October 31, 2019.
- ⁴⁸ Caltrans. *Stormwater & Water Pollution Control*. Available online at: <https://dot.ca.gov/programs/traffic-operations/ep/stormwater>, accessed August 27, 2019.
- ⁴⁹ California State Water Resources Control Board. *Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf, accessed August 27, 2019.

The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

Caltrans' Storm Water Management Plan (SWMP) describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The SWMP was most recently updated in July of 2016.⁵⁰

California Green Building Standards Code

Chapters 4 and 5 of the California Green Building Standards Code (CalGreen) include mandatory measures for residential and nonresidential development, respectively. Section 4.106.2 requires residential projects that disturb less than 1 acre and are not part of a larger common plan of development, manage stormwater drainage during construction through use of on-site retention basins, filtration systems where stormwater is conveyed to a public drainage system, and/or compliance with a stormwater management ordinance. Section 5.106.1 requires newly constructed nonresidential projects and additions of less than one acre to prevent the pollution of stormwater runoff because of construction

⁵⁰ Caltrans. 2016. *Statewide Stormwater Management Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf, accessed August 27, 2019.

through compliance with a local ordinance or implementing BMPs that address soil loss and good housekeeping to manage equipment, materials, and wastes.⁵¹

California Fish and Game Code

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake;
or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The notification requirement applies to any work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.⁵²

California Ocean Plan

The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

⁵¹ California Building Standards Commission. 2017. *2016 California Green Building Standards Code*. Available online at: https://ladbs.org/docs/default-source/publications/code-amendments/2016-calgreen_complete.pdf?sfvrsn=6, accessed August 27, 2019.

⁵² California Legislative Information. *Chapter 6. Fish and Wildlife Protection and Conservation [1600-1617], Section 1602*.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters.⁵³

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code, Section 10610 et seq.), which requires urban water suppliers to develop water management plans to actively pursue the efficient use of available supplies. Every five years, water suppliers are required to develop Urban Water Management Plans (UWMPs) to identify short-term and long term water demand management measures to meet growing water demands.⁵⁴

Conservation Requirements

Executive Order B-37-16 established a new water use efficiency framework for California. The order bolstered the state's drought resilience and preparedness by establishing longer-term water conservation measures that include permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans and improving agricultural water management and drought plans. Based on monthly water use reporting, most urban water suppliers reported sufficient supplies to meet demand in three additional dry years and are not subject to state conservation mandates. On February 8, 2017, SWRCB adopted an emergency water conservation regulation to amend and extend the May 2016 regulation. The amended regulation allows certain suppliers the opportunity to submit or resubmit their water supply reliability assessments.⁵⁵

⁵³ California Water Boards. 2015. *California Ocean Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf, accessed August 27, 2019.

⁵⁴ California Water Code Division 6.

⁵⁵ California Water Boards. 2019. *Governor's Conservation Executive Orders and Proclamations* Available online at: https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/executive_orders.html Accessed September 3, 2019.

California State Lands Commission

The California State Lands Commission (SLC) provides stewardship of California's public trust lands, waterways, and resources through economic development, protection, preservation, and restoration. The SLC is tasked with public land management and resource protection to ensure the future quality of the environment and balanced use of the lands and resources entrusted to its care. The State's public trust lands include tidelands, navigable waterways, and submerged coastal lands extending to a distance of three nautical miles, as well as the waters and underlying beds of more than 120 rivers, lakes, streams, and sloughs.

The California SLC regulates the use of tidelands and submerged lands under its jurisdiction to ensure that proposed uses of these lands are consistent with the Public Trust Doctrine principle that certain resources are preserved for public use. Generally, the SLC has jurisdiction over land below mean high tide (MHT). Public and private entities may apply to the SLC for land leases or permits on State lands for many purposes including dredging among others. CGC Section 65940 describes the degree of specificity and contents required for a surface land lease application.

California Geological Survey Tsunami Inundation Maps

The California Geological Survey provides geologic and seismic expertise to the public, other State government offices, and local government agencies (cities and counties). The California Geological Survey is working closely with the California Emergency Management Agency (Cal EMA) and the University of Southern California Tsunami Research Center to produce statewide tsunami inundation maps for California. These maps are used by coastal communities to produce emergency evacuation plans. The Cal EMA provides generalized maps for projected tsunami inundation to coastal government agencies for emergency planning purposes. These maps are used as a basic guideline for what areas are prone to tsunami inundation.

California Coastal Commission Sea-Level Rise Policy Guidance

The CCC has developed Sea-Level Rise Policy Guidance intended to help local governments, permit applicants, and other interested parties address the challenges presented by sea-level rise in California's coastal zone. The CCC's adopted Sea-Level Rise Policy Guidance outlines the types of information, analysis, and design considerations that the agency's staff requires to determine whether shoreline projects conform to the above-listed Coastal Act policies. Specifically, the Sea-Level Rise Policy Guidance provides step-by-step guidance on how to address sea-level rise in new and updated Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs) according to the policies of the California Coastal Act. LCPs and the CDP processes are the fundamental land use planning and regulatory

governing mechanisms in the coastal zone. While it is advisory, the data requirements, resource considerations, projections for sea-level rise, alternatives analyses, and monitoring requirements outlined in detail in the CCC's Sea-Level Rise Policy Guidance represent information that would likely be required to produce as part of the CCC's evaluation of coastal projects in conformance with Sections 30235 and 30253 of the Coastal Act. Specifically, the Sea-Level Rise Policy Guidance outlines that projects will need to be planned, located, designed, and engineered for the changing water levels and associated impacts that might occur over the life of the development. In addition, project planning should anticipate the migration and natural adaptation of coastal resources (beaches, access, etc.) due to future sea-level rise conditions in order to avoid future impacts to those resources from the new development.

The most recent update in 2018 of the Sea-Level Rise Guidance document aims to respond to the needs for guidance that can help cities, counties and the State prepare for, and adapt to, sea-level rise. The 2018 update provides a science-based methodology for state and local governments to analyze and assess the risks associated with sea-level rise, and to incorporate sea-level rise into their planning, permitting, and investment decisions. The Guidance expands the preferred coastal adaptation planning approaches, incorporating existing law, expressed policy preferences by the Governor and Legislature, and the goal of fostering consistency across coastal and ocean government agencies. Some recommendations include protection of coastal habitats and public access, adaptation strategies that prioritize protection of vulnerable communities, and adaptive capacity should be built in to design and planning.⁵⁶

California Stormwater Quality Association BMP Handbooks

The California Stormwater Quality Association (CASQA) is a professional member association dedicated to the advancement of stormwater quality management through collaboration, education, implementation guidance, regulatory review, and scientific assessment. CASQA's membership is comprised of a diverse range of stormwater quality management organizations and individuals, including cities, counties, special districts, industries, and consulting firms throughout the state. CASQA develops and publishes four BMP Handbooks. The New Development and Redevelopment Handbook provides guidance on developing project specific SWMPs, including selection and implementation of BMPs, for a particular development or redevelopment project.⁵⁷

⁵⁶ California Natural Resources Agency. 2018. State of California Sea-Level Rise Guidance. Available at: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A OPC SLR Guidance-rd3.pdf, accessed September 17, 2019.

⁵⁷ CASQA. *New Development & Redevelopment BMP Handbook*. Available online at: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>, accessed August 27, 2019.

3.10.2.3 Regional

Water Quality Control Plan for the Central Coastal Basin

The Water Quality Control Plan for the Central Coastal Basin, or basin plan, identifies how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. This basin plan lists the various water uses. Second, it describes the water quality which must be maintained to allow those uses. It then describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan. It summarizes SWRCB and RWQCB plans and policies to protect water quality, and describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs. The Regional Board implements the basin plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either state waste discharge requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: (1) they meet these requirements, (2) water quality objectives are met, and (3) beneficial uses are protected and water quality is controlled. The basin plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the basin plan are supported; the Regional Board makes water quality control recommendations for other projects.⁵⁸

Water Quality Control Plan for the Los Angeles Region

The RWQCB has prepared a Water Quality Control Plan for the Los Angeles Region. This basin plan encompasses all coastal drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). In addition, the Los Angeles region includes all coastal waters within three miles of the continental and island coastlines. As the eastern boundary, formed by the Los Angeles County line, departs somewhat from the hydrologic divide, the Los Angeles and Santa Ana regions share jurisdiction over watersheds along their common border.

⁵⁸ California Water Boards. 2019. *Water Quality Control Plan for the Central Coastal Basin*. Available online at: https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs/2019_basin_plan_r3_complete.pdf, accessed August 27, 2019.

This basin plan assigned beneficial uses to surface and groundwater such as municipal water supply and water-contact recreation to all waters in the basin. It also set water quality objectives, subject to approval by the EPA, intended to protect designated beneficial uses. These objectives apply to specific parameters (numeric objectives) and general characteristics of the water body (narrative objectives). An example of a narrative objective is the requirement that all waters must remain free of toxic substances in concentrations producing detrimental effects upon aquatic organisms. Numeric objectives specify concentrations of pollutants that are not to be exceeded in ambient waters of the basin. The Los Angeles RWQCB is involved in the regulation of several activities that are relevant to the consideration of the basin plan:

- Prepares, monitors compliance with, and enforces Waste Discharge Requirements, including NPDES permits;
- Implements and enforces local stormwater control efforts;
- Enforces water quality laws, regulations, and waste discharge requirements; and
- General Construction Activity Stormwater Discharges

Stormwater discharges that are composed entirely of runoff from qualifying construction activities may require regulation under the General Construction Activity Storm Water Permit issued by the SWRCB. Construction activities that qualify include clearing, grading, excavation, reconstruction, and dredge-and-fill activities that result in the disturbance of at least one acre and less than five acres of total land area. The evaluation of the plan does not generate the need for compliance with the Construction General Permit. The development of single-family residences would require permit coverage if the development disturbs greater than one acre of land. Additionally, the plan would require the consideration of a Standard Urban Stormwater Management Plan (SUSMP) as part of compliance with the NPDES General Construction Activity Storm Water Permit to reduce water quality impacts to the maximum extent practicable. A SUSMP is a report that includes one or more site maps, an identification of construction activities that could cause pollutants to enter the stormwater, and a description of measures or BMPs to control these pollutants to the maximum extent practicable.⁵⁹

⁵⁹ California Water Boards. 2019. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. Available online at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html, accessed August 27, 2019.

Water Control Plan for the Lahontan Region

This basin plan for the Lahontan Region sets forth water quality standards for the surface and ground waters which include both designated beneficial uses of water and the narrative and numerical objectives which must be maintained or attained to protect those uses. It identifies general types of water quality problems, which can threaten beneficial uses. It then identifies required or recommended control measures for these problems. The plan also summarizes past and present water quality monitoring programs, and identifies monitoring activities, which should be carried out to provide the basis for future basin plan updates and for waste discharge requirements or conditional waivers.

Additionally, the Lahontan basin plan implements a number of state and federal laws, the most important of which are the federal CWA and the State Porter-Cologne Water Quality Control Act. Other pertinent federal laws include the Safe Drinking Water Act, Toxic Substances Control Act, Resource Conservation and Recovery Act, and Endangered Species Act, and the Comprehensive Response, Compensation, and Liability Act (CERCLA or “Superfund”) and Superfund Amendment and Reauthorization Act (SARA). Other applicable California laws include the Health and Safety, Fish and Game, and Food and Agriculture Codes.⁶⁰

Water Control Plan for the Colorado River Basin

The intent of this basin plan is to provide definitive guidelines and give direction to the full scope of activities that serve to optimize the beneficial uses of the state waters within the Colorado River Basin by preserving and protecting the quality of these waters. Water uses and water benefits vary. Water quality is an important factor in determining use and benefit. For example, drinking water must be of higher quality than the water used to irrigate pastures. Both are beneficial water uses, but the quality requirements for irrigation water are different from those for drinking water. The basin plan recognizes the variations of water quality and water uses. The basin plan lists and defines the various beneficial water uses (Chapter 2). It describes the water quality which must be maintained to support such uses (Water Quality Objectives, Chapter 3). The section on implementation (Chapter 4) describes the programs, projects and other actions that are necessary to achieve the standards established in this basin plan. Plans, Policies and Issues (Chapter 5), summarize the various plans and policies which protect water quality. This chapter also describes water quality issues which require special attention.

⁶⁰ California Environmental Protection Agency. *Water Quality Control Plan for the Lahontan Region (Basin Plan)*. Available online at: https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml, accessed August 27, 2019.

Surveillance and Monitoring (Chapter 6), describes activities within the Colorado River Basin Region related to surveillance, monitoring, assessment, lab support, and quality assurance and quality control.⁶¹

Water Quality Control Plan for the Santa Ana River Basin

This basin plan establishes water quality standards for the ground and surface waters of the region. The term “water quality standards,” as used in the federal CWA, includes both the beneficial uses of specific waterbodies and the levels of quality that must be met and maintained to protect those uses. The plan describes actions by the Regional Board and others that are necessary to achieve and maintain water quality standards. The Regional Board regulates waste discharges to minimize and control their effect on the quality of the region’s ground and surface water. Permits are issued under several programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the plan, along with the causes, where they are known. For waterbodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included.⁶²

Water Quality Control Plan for the San Diego Basin

The San Diego Regional Board's basin plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the plan: (1) designates beneficial uses for surface and ground waters, (2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state’s antidegradation policy, (3) describes implementation programs to protect the beneficial uses of all waters in the region, and (4) describes surveillance and monitoring activities to evaluate the effectiveness of the plan (California Water Code sections 13240–13244, section 13050(j)). Additionally, the plan incorporates by reference all applicable state and regional board plans and policies.⁶³

⁶¹ California Water Boards. 2019. *Water Quality Control Plan for the Colorado River Basin Region*. Available online at: https://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/docs/bp032014/r7_bp2019fullbp.pdf, accessed August 27, 2019.

⁶² California Water Boards. 2019. *Santa Ana Region Basin Plan*. Available online at: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/, accessed August 27, 2019.

⁶³ California Water Boards. 2019. *San Diego Region – The Basin Plan*. Available online at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/, accessed August 27, 2019.

3.10.2.4 Local

County of Los Angeles General Plan

As part of the Conservation and Natural Resources Element of the 2040 General Plan Update, the Board of Supervisors of the County of Los Angeles has adopted three goals for water quality initiatives related to hydrology and water quality and two goals related to watershed and river master plans:⁶⁴

Water Quality Initiatives

- Support multi-benefit outcomes, such as water quality benefits arising from ecosystem restoration efforts, and identify, attract, and create funds and resources to implement this initiative.
- Participate in enhanced watershed management programs and watershed management programs in coordination with other agencies throughout Los Angeles County.
- Participate in coordinated integrated watershed monitoring plans in coordination with other agencies throughout Los Angeles County.

Watershed and Rivers Master Plans

- Participate with stakeholders in the preparation of watershed management plans in response to the NPDES MS4 Permit by promoting multi-benefit outcomes, including, but not limited to new public access to natural resources, new recreational opportunities, enhanced aquatic habitats, and restored natural features, where appropriate, while maintaining necessary levels of flood protection.
- Identify, attract, and create funds and resources to implement these plans.

County of Riverside General Plan

The County of Riverside General Plan specifically addresses hydrology and water quality in four categories: water resources, water quality (including groundwater quality), floodplain management, and wetlands.⁶⁵

⁶⁴ Los Angeles Department of Regional Planning. *General Plan, Chapter 9: Conservation and Natural Resources Element*. Available online at: <http://planning.lacounty.gov/generalplan/generalplan>, accessed August 27, 2019.

⁶⁵ Riverside County Planning Department. 2015. *General Plan Multipurpose Open Space Element*. Available online at: [https://planning.rctlma.org/Portals/14/genplan/general Plan 2017/elements/OCT17/Ch05 MOSE 120815.pdf?ver=2017-10-11-102103-833](https://planning.rctlma.org/Portals/14/genplan/general%20Plan%202017/elements/OCT17/Ch05%20MOSE%20120815.pdf?ver=2017-10-11-102103-833), accessed August 27, 2019.

Water Resources

The General Plan acknowledges that contamination from natural or manufactured sources has reduced groundwater quality such that its use requires treatment. Management of the amount of water available (local and imported) and its quality, is identified as an important response to the gap between supply and demand in Riverside County. The General Plan provides policies that seek to protect and enhance the water resources in the county. These policies address broad water planning issues, and the relationship of land use decisions to water issues.

Water Quality

The General Plan recognizes BMPs established by the three applicable RWQCBs, Regions 7, 8, and 9 to provide state-level water quality policy and NPDES as effective means of managing water quality problems that have occurred in Riverside County. Such problems are related to inadequate subsurface sewage disposal, waste disposal management of the Santa Ana River, agriculturally related problems such as citricultural runoff in the western county and increasing salinity of the desert groundwater basins, sediment buildup of water bodies from construction-related erosion, lake water quality problems, and pollution due to urban stormwater system runoff.

Floodplain and Riparian Area Management

The intent of the county is to sustain living riparian habitats to the maximum extent possible, recognizing that flooding is part of the dynamic nature of healthy rivers and ecosystems. High flows and flood waters are needed to cleanse the channels of accumulated debris, build stream banks, import gravels for aquatic life, thin riparian forests and create riparian habitat. The open space of floodplains adjacent to rivers and streams helps store and slowly release floodwaters, thus reducing flood flow and peaks and their subsequent impacts during small and frequent flood events. Further, riparian habitat within floodplains is of great value to resident and migratory animal species, as it provides corridors and linkages to and from the biotic regions of the county. The numerous essential habitat elements provided by the remaining riparian corridors of Riverside County make them a significant contributor to wildlife habitat throughout the county.

Wetlands

The General Plan provides specific policies for the protection of wetlands including the requirement to ensure compliance with the Section 404 of the federal CWA in terms of wetlands mitigation policies and policies concerning fill material in jurisdictional wetlands during development review and approval process; preservation of buffer zones around wetlands where feasible and biologically appropriate; and

consideration of wetlands for use as natural water treatment areas that will result in improvement of water quality.

San Bernardino County General Plan

San Bernardino County has established goal and policies to ensure coordination and cooperation with governmental agencies at all levels to ensure safe, reliable, and high-quality water supply for all residents and ensure prevention of surface and ground water pollution. The County General Plan provides specific policies for adherence to federal and state water quality standards for surface and groundwater and wastewater discharge requirements in the review of development proposals that relate to type, location and size of the project to safeguard public health. Similarly, the County General Plan specifies the need to work with the RWQCBs to establish uniform criteria for appropriate sewerage options for new development. The County General Plan further directs cooperation with state, regional, and responsible authorities to expand water sampling programs to determine ambient groundwater quality conditions affecting public, agricultural, and private wells. Identify the sources, extent, and types of organic and inorganic groundwater contaminants, and evaluation of their impacts on groundwater resources. The County General Plan calls for the prevention of surface and groundwater pollution through continued cleanup of contaminated waters and watersheds.⁶⁶

Imperial County General Plan

The Imperial County General Plan provides specific goals and policies related to maintaining the viability of the Salton Sea and other surface water resources in the county.⁶⁷

- **Goal 2:** Long-term viability of the Salton Sea, Colorado River, and other surface waters in the County will be protected for sustaining wildlife and a broad range of ecological communities.
 - **Objective 2.1:** The continued viability of the agricultural sector as an important source of surface water for the maintenance of valuable wildlife and recreational resources in the County.
 - **Objective 2.2:** A balanced ecology associated with the riparian and ruderal biological communities important as breeding and foraging habitats for native and migratory birds and animals occurring within the County.

⁶⁶ San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed August 27, 2019.

⁶⁷ Imperial County Planning/Building Department. 1997. *Imperial County General Plan Water Element*. Available online at: <http://www.icpds.com/CMS/Media/Water-Element.pdf>, accessed August 27, 2019.

- **Objective 2.3:** Preservation of riparian and ruderal habitats as important biological filters as breeding and foraging habitats for native and migratory birds and animals.

Orange County General Plan

In the Orange County region, the protection of water quality is a major concern. The need to maintain safe water quality may constrain the development of energy resources, from methane (landfills) and geothermal sources. At a minimum, water quality concerns will need to be considered during the process of developing these resources and water intensive resources such as agriculture.

Development of land and the increase in population density has also created new sources of non-stormwater discharges and pollutants in stormwater discharges. The San Diego and Santa Ana RWQCBs require that water quality and watershed protection principles are considered as part of land use planning and development review.

Drainage Area Management Plan (DAMP)

The specific water pollutant control elements of the Orange County Stormwater Program are documented in the 2003 Drainage Area Management Plan (DAMP) which is the County of Orange, incorporated cities of Orange County, and Orange County Flood Control District's (collectively referred to as Permittees) primary policy, planning and implementation document for municipal NPDES Stormwater Permit compliance. The DAMP was prepared and is periodically updated using a consensus building process that involving public and private sector input and public review through the CEQA process.⁶⁸

The DAMP describes the agreements, structures and programs that:

- Provide the framework for the program management activities and plan development (DAMP Section 2.0 and Section 3.0);
- Provide the legal authority for prohibiting unpermitted discharges into the storm drain system and for requiring BMPs in new development and significant redevelopment (DAMP Section 4.0);
- Improve existing municipal pollution prevention and removal best management practices (BMPs) to further reduce the amount of pollutants entering the storm drain system (DAMP Section 5.0);

⁶⁸ Orange County Public Works. *2003 Drainage Area Management Plan (DAMP)*. Available online at: <https://cms.ocgov.com/gov/pw/watersheds/documents/damp/mapplan.asp>, accessed August 27, 2019.

- Educate the public about the issue of urban stormwater and non-stormwater pollution and obtain their support in implementing pollution prevention BMPs (DAMP Section 6.0);
- Ensure that all new development and significant redevelopment incorporates appropriate Site Design, Source Control and Treatment Control BMPs to address specific water quality issues (DAMP Section 7.0);
- Ensure that construction sites implement control practices that address control of construction related pollutants discharges including erosion and sediment control and on-site hazardous materials and waste management (DAMP Section 8.0);
- Ensure that existing development will address discharges from industrial facilities, selected commercial businesses, residential development and common interest areas/homeowner associations (Note: The San Diego permit explicitly outlines a residential component, but the Santa Ana permit is more general about residential requirements) (DAMP Section 9.0);
- Detect and eliminate illegal discharges/illicit connections to the municipal storm drain system (DAMP Section 10.0);
- Identify impacted receiving waters and produce environmental quality information to direct management activities, including prioritization of pollutants to support the development of specific controls to address these problems (DAMP Section 11.0); and
- Assess watersheds and manage urban runoff on a watershed basis (DAMP Section 12.0).

One of the major challenges for the Permittees in updating the programs was the reconciliation between the two Regional Board permits and the resulting program requirements that have significant differences for the first time. As a result of this separation, the 2003 DAMP now includes Local Implementation Plans (LIPs – also termed Jurisdictional Urban Runoff Management Programs – JURMP – in the San Diego Regional Board Third Term Permit). The LIPs were created to assist each Permittee in implementing an increasingly complex program within its jurisdiction while maintaining a single policy document that addresses two sets of permit requirements.⁶⁹ The LIPs were completed by the San Diego Permittees in February 2003 and by the Santa Ana Permittees in June 2003.

⁶⁹ Orange County Public Works. *Drainage Area Management Plan (DAMP), Appendix A – Stormwater Program Local Implementation Plan (LIP)*. Available online at: <https://media.ocgov.com/gov/pw/watersheds/documents/damp/lip.asp>, accessed August 27, 2019.

The requirement to overlay separate, but nonetheless, highly interrelated water quality protection and planning processes based on hydrologic rather than political boundaries was addressed through the creation of Watershed Action Plans (WAP). A WAP (see DAMP Appendix D) was created for each of the six watersheds under the jurisdiction of the San Diego Regional Board in August 2003. A model WAP was created for the Newport Bay watershed during 2005-06 and draft WAPs are being prepared for the other watersheds in the area of Orange County under the jurisdiction of the Santa Ana Regional Board.⁷⁰

Ventura County General Plan

The Ventura County General Plan provides specific goals and policies related to the inventory and monitoring of water quantity and quality to facilitate effective management of the resources. The Ventura County General Plan has identified ten specific programs to support achievement of the goals and policies. The programs include:

- Support of the Seawater Intrusion Abatement Project;
- Enforcement of Chapter 70 (Excavation and Grading) of the Uniform Building Code, as incorporated by reference in and amended by the Ventura County Building Code, to ensure that any proposed grading in a waterway or wetland is adequately investigated and that any development incorporates appropriate design provisions to protect waterways or wetlands;
- Support the Fox Canyon Groundwater Management Agency Plan for both the Upper and Lower Aquifer Systems;
- Continued coordination with water districts and other appropriate agencies to establish a data base on actual available supply, projected use factors for types of land use and development, and threshold limits for development within available water resources;
- Planning Division will continue to promote of the efficient use of water through the Landscape Design Criteria Program;
- Cooperation between the Public Works Agency and the Environmental Health Division, to pursue the use of reclaimed water for agricultural irrigation;
- Continued monitoring, inspection and regulation of underground storage tanks;

⁷⁰ Orange County Public Works. *Drainage Area Management Plan (DAMP)*. Available online at: <https://cms.ocgov.com/gov/pw/watersheds/documents/damp/default.asp>, accessed August 27, 2019.

- Identification of waste disposal sites and seek to mitigate impacts to water resources; and consideration of the Board of Supervisors of a Countywide water conservation retrofit program to fund the installation of water conservation fixtures) for businesses and residents located within Ventura County.⁷¹

City General Plan and Ordinances

In accordance with Sections 65560(g) of the California Government Code, all cities are required to have a conservation element as part of their General Plans.⁷² The conservation element provides goals and policies related to conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. One of the six required aspects of the open space element is for planning, conservation and management of open space for the preservation of natural resources, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands. In addition, many cities have ordinances related to protection, conservation and management of natural water resources consistent with the applicable beneficial uses stipulated in the applicable RWQCB basin plan.

Furthermore, some local jurisdictions have started to address climate change impacts such as sea level rise in policy documents. For example, the City of Long Beach developed a draft of its Climate Action and Adaptation Plan (CAAP) to help reduce greenhouse gas (GHG) emissions, prepare the community for the impacts of climate change, improve the quality of life, and enhance economic vitality. The CAAP provides a framework for creating or updating policies, programs, practices, and incentives to reduce the City's GHG footprint, and ensure the community and physical assets are better protected from the impacts of climate change.⁷³

3.10.3 ENVIRONMENTAL IMPACTS

3.10.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts to hydrology and water resources, if the Plan would result in any of the following:

⁷¹ City of Ventura. *Ventura General Plan*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed August 27, 2019.

⁷² California Legislative Information. *Article 10.5. Open-Space Lands [65560-65570], Section 65560*.

⁷³ City of Long Beach Development Services. *Climate Action and Adaptation Plan*. Available online at: <http://www.longbeach.gov/lbds/planning/caap/>, accessed September 17, 2019.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - Result in substantial erosion or siltation on- or off-site;
 - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.3.2 Methodology

The analysis of water quality impacts identifies the types of pollutants potentially associated with future development as a result of implementation of the Plan and considers their effects on water quality. Consideration is given to BMPs, which would serve to minimize pollutants in stormwater runoff. Further, the Plan's consistency with relevant regulatory permits/requirements is evaluated to demonstrate how compliance would protect water quality.

As summarized in Regulatory Framework, independent of the CEQA process, there is a comprehensive set of regulations implemented at the State and jurisdictional level to impacts related to storm drainage, urban pollutants, and flood hazards. As such, the analysis presented herein assumes future projects would comply with these regulations.

This discussion of hydrology and water quality addresses impacts within the entire SCAG region. The impact analysis was based on several factors, including the policies and land uses of the Plan, the degree

to which existing land uses in the region would change, and the thresholds of significance for hydrology and water quality.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.10.3.3 Impacts and Mitigation Measures

Impact HYD-1 Potential to violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Significant and Unavoidable Impact - Mitigation Required.

Hydrology and water quality resources of concern within the SCAG region are subject to extensive regulatory controls at the federal, state, and local level. Grading, excavation, and other construction activities associated with implementation of transportation projects and development projects anticipated to occur under the Plan, could impact water quality due to erosion resulting from exposed soils that may be transported in stormwater runoff. In addition, construction activities have the potential to generate short-term water pollutants, including sediment, trash, construction materials, and equipment fluids. However, all construction activities are subject to NPDES GCASP permit requirements in addition to any applicable local requirements. As shown in **Table 3.10-3, Pollutants Associated with Transportation**, there are several pollutants specific to transportation that could also impact water quality. Many urban runoff pollutants are attributable to landscape irrigation, highway runoff, and illicit dumping that flows into nearby water bodies during storm events. These pollutants could include, but are not limited to, oil, grease, auto emissions, and pesticides, urban runoff debris, and air pollution residue. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances. If such contaminated runoff remains largely untreated, long-term degradation of water quality could occur.

The SWRCB has developed trash, metal, and bacteria TMDLs for many watersheds in the region, including Dominguez Channel, Santa Monica Bay, Los Angeles River, Santa Clara River, Ventura River, Malibu Creek, Calleguas Creek, and Ballona Creek. The TMDLs provide a numerical threshold for each pollutant within each watershed to be used for regulating both point and non-point source discharges and is implemented through the NPDES permit process. An NPDES storm water permit is required for any construction activity that would disturb greater than one acre. Acquisition of the General Construction permit is dependent on the preparation of a SWPPP that should contain specific BMPs to control the discharge of pollutants, including sediment, into the local surface water drainages. In addition, all state projects for which Caltrans is the sponsor agency would comply with the Caltrans Statewide NPDES permit that regulates all storm-water discharges from Caltrans owned conveyances, maintained facilities and construction activities. The inclusion of runoff control measures in the design of future roadway projects should improve water quality and result in fewer impacts to the environment.

**Table 3.10-3
Pollutants Associated with Transportation**

Pollutant	Source
Asbestos	Clutch plates, brake linings
Cadmium	Tire wear and insecticides
Copper	Thrust-bearing, bushing, brake linings, and fungicides and insecticides
Chromium	Pavement materials, metal plating, rocker arms, crankshafts, rings, and brake linings
Cyanide	Anti-caking compound in de-icing salt
Lead	Leaded gasoline, motor oil, transmission babbitt metal bearings, tire wear
Iron	Auto-body rust, steel highway structures, moving engine parts
Manganese	Moving engine parts
Nickel	Diesel fuel and gasoline, pavement material, lubricating oil, metal plating, bushing wear, and brake linings
Nitrogen and Phosphorus	Motor oil additives, fertilizers
Sulphates	Roadway beds, fuel, and de-icing salt
Zinc	Motor oil and tires
Grease and Hydrocarbons	Spills and leaks of oil and n-paraffin lubricants, antifreeze, hydraulic fluids
Rubber	Tire wear
Sediment	Pavement wear, construction and maintenance activities

Source:

U.S. Environmental Protection Agency, Office of Water. 1995. *Controlling Nonpoint Source Runoff Pollution from Roads, Highways, and Bridges*. EPA-841-F-95-008a.

Construction of transportation projects and development projects anticipated to occur under the Plan would increase impervious surfaces throughout the SCAG region. The growth projections reflected in the

Plan would substantially increase the amount of urbanized land or densify existing urbanized areas in the SCAG region. Connect SoCal envisions more compact, infill development patterns which may result in higher levels of paved surfaces and pollution associated with water run-off from paved surfaces into urban waterways.

Increased impervious surfaces could add to storm water runoff volumes and peak flow rates which could result in increased pollutants loads. Future projects could also result in increased stormwater runoff, and thus increased pollutant loading, being captured in existing storm drain systems and conveyed to local or regional wastewater treatment facilities. The land use patterns included in the Plan would generate new sources of sanitary sewage, which would also be conveyed to wastewater treatment facilities in the region for secondary or tertiary treatment. Suspended sediments, oxygen demanding substances, and oil and grease would constitute a substantial part of these pollutant loads. Total nitrogen and total phosphorous would increase less than these other pollutants, but would have the potential for influencing algal growth, reducing dissolved oxygen, and affecting aquatic species abundance and composition. Contaminated urban runoff, if left untreated, would result in incremental degradation of water quality. This is of particular concern where projects are located on previously contaminated sites. Without effective erosion and storm water control, contaminated soils exposed during construction activities may result in surface water contamination.

Transportation and land use strategies in the Plan anticipate increased urbanization in high-quality transit areas (HQTAs). Additional impervious surfaces in these already developed areas could increase the potential for pollutants to enter impaired receiving waters. Project grading and construction of impervious surfaces for the Plan's transportation projects and anticipated development projects have the potential to alter existing drainage patterns by altering slope and reducing infiltration. Many jurisdictions in the region, such as the County and City of Los Angeles, have strict guidelines requiring no net increase in runoff during construction and operation. These low impact development standards help to reduce the potential for contaminated runoff.

For development projects where construction activities would disturb more than one acre of land, construction activities are also subject to NPDES GCASP requirements, which require the preparation and implementation of a SWPPP. However, since implementation of the Plan would add an additional 6,346 lane miles to the region and 41,546 acres of greenfield land is anticipated to become developed, there is potential for water quality standards and waste discharge requirements to be exceeded due to an expected increase in impervious surfaces. As such, implementation of the Plan may result in significant, unavoidable impacts to surface and groundwater quality requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-1: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage regional-scale planning for improved water quality management and pollution prevention. Future impacts to water quality shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.

Project Level Mitigation Measure

PMM HYD-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Complete, and have approved, a Stormwater Pollution Prevention Plan (SWPPP) prior to initiation of construction.
- b) Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable.
- c) Comply with the Caltrans storm water discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control.
- d) Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures.
- e) Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings.

- f) Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse:
- g) Where feasible, restore or expand riparian areas such that there is no net loss of impervious surface as a result of the project.
- h) Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban storm water runoff discharge permits, on new facilities.
- i) Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable storm water runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase.
- j) Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' storm water discharge permit including long-term sediment control and drainage of roadway runoff.
- k) Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process.
- l) Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels.
- m) Encourage Low Impact Development (LID) and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to water quality standards and waste discharge requirements could be significant and unavoidable even with implementation of mitigation.

Impact HYD-2 Potential to substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Significant and Unavoidable Impact - Mitigation Required.

Given that most of the groundwater basins in the Plan area are already in a state of overdraft, future development may result in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Population growth of 3.2 million people by 2045 would increase regional water demand and could substantially deplete groundwater supplies. Additionally, urbanization to accommodate future growth would potentially interfere with groundwater recharge due to increased impervious surfaces.

According to the Public Policy Institute of California, groundwater overdraft in some agricultural regions averages about 2 million af annually.⁷⁴ In contrast to surface water, groundwater use has largely been unregulated under California law until recently. Many basins have experienced long-term overdraft, and 21 of the state's 515 basins are now considered critically overdrafted, including Indian Wells Valley Basin which has portions within San Bernardino County and the Santa Clara River Valley – Oxnard Basin in Ventura County.^{75,76}

⁷⁴ The Public Policy Institute. 2017. *Just the Facts. Groundwater in California*. May. Available online at: https://www.ppic.org/wp-content/uploads/ITF_GroundwaterITF.pdf, accessed August 14, 2019.

⁷⁵ The Public Policy Institute. 2017. *Just the Facts. Groundwater in California*. May. Available online at: https://www.ppic.org/wp-content/uploads/ITF_GroundwaterITF.pdf, accessed August 14, 2019.

Most transportation projects involve the modification of existing facilities and do not themselves generate water supply impacts but could affect groundwater by increasing impervious surfaces and reducing opportunities for recharge. The Plan anticipates approximately 6,346 new lane miles would be added to the region in the form of new facilities, additional right-of-way on existing transportation facilities, extending roads to accommodate bike lanes on existing transportation facilities, and even associated landscaping and future plantings. Additionally, under the Plan, 41,546 acres of greenfield land is anticipated to be urbanized as the region adds housing and jobs. Under natural conditions, vegetation intercepts and retains rainfall before infiltration or runoff occurs. Without hard-surfaced land areas, this hydrology cycle favors groundwater recharge. With a roadway or other hard surface this infiltration dynamic is significantly impeded. The magnitude of this effect is reported by studies indicating that the volume of storm water washed off one-acre of roadway is about sixteen times greater than that of a comparably sized meadow.

The increase in impervious surfaces due to additional lane miles and conversion of greenfields into developed land would potentially affect groundwater recharge rates. Reduction in groundwater recharge, either through a net deficit in aquifer volume or through a lowering of the local groundwater table level, presents a significant impact and requires the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-2: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions and water agencies, to encourage regional-scale planning for improved stormwater management and groundwater recharge, including consideration of alternative recharge technologies and practices. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project Level Mitigation Measures

PMM HYD-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

⁷⁶ California Department of Water Resources. 2019. *Bulletin 118 Groundwater Basins Subject to Critical Conditions of Overdraft*. Available online at: <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins/Files/2018CODBasins.pdf?la=en&hash=3014D2F2299AA503C469D41BBC0E8DCFCE0267F8>, accessed September 17, 2019.

measures to reduce substantial adverse effects from violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Avoid designs that require continual dewatering where feasible.

For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes adverse impacts on groundwater for the life of the project, Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code.

- b) Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize new impervious surfaces, including the use of in-lieu fees and off-site mitigation.
- c) Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface.
- d) Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to groundwater supplies could be significant and unavoidable even with implementation of mitigation..

Impact HYD-3a Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition

of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

Significant and Unavoidable Impact - Mitigation Required.

Implementation of transportation projects as well as anticipated development under the Plan would occur within watersheds that have impaired water bodies. Many of the impaired water bodies are located near a freeway, transit, or rail projects included in the Plan. Several projects may impact water bodies by placing fill material within a stream channel. For example, several of the lane widening projects and new transportation facilities could cross existing creeks or be expanded into wetland areas. However, these potential intrusions would have to comply with existing State and local regulations and would be subject to permitting by the USACOE and a RWQCB pursuant to Sections 404 and 401 of the CWA.

Stormwater runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff. In addition, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations.

Construction and earth-moving activities can be a major source of sediment loading in local waterways. There is significant potential for unprotected soil to erode as stormwater runoff as a result of construction activity. However, state regulation requires that prior to commencement of construction, a SWPPP must be submitted to the SWRCB. SWPPPs identify best management practices (BMPs) used during construction. Individual projects included or discussed in the Plan, are expected to adopt BMPs appropriate to local conditions and to the proposed construction techniques that will reduce stormwater runoff.

The Plan recognizes that as population continues to grow, there is increasing pressure on natural lands. One of the goals of the Plan (See **Section 2.0, Project Description**) is to promote conservation of natural lands and restoration of critical habitats which would have a positive effect on the region's hydrology. The land use mix for the Plan assumes that 60 percent of new housing and 73 percent of new jobs will be in Growth Priority Areas and therefore would be directed away from sensitive habitat or greenfields. However, the Plan would still result in an overall increase in impervious surface.

In addition, due to the anticipated demographic growth in the SCAG region reflected in the Plan, urbanization may also occur in areas that have the potential to result in changes to the drainage patterns. Examples include hillsides and ridgelines which can experience development pressure as urbanization

increases in nearby cities. While the Plan encourages denser, infill development in existing urban areas near HQTAs, many of which are located on relatively flat lands, construction on hillsides and other similar land areas greatly increases the potential for impacts to occur. Therefore, impacts related to altering the existing drainage patterns of a site or area is considered significant.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HYD-1** and **SMM HYD-2**.

SMM HYD-3: SCAG shall build from existing efforts including those at the sub-regional and local level and shall continue to work with local jurisdictions to encourage regional-scale planning for maintaining and/or improving existing drainage patterns. Future adverse impacts may be avoided through cooperative planning, information sharing, and comprehensive implementation efforts within the SCAG region.

Project Level Mitigation Measures

See **PMM HYD-1**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to drainage facilities and potential erosion or siltation could be significant and unavoidable even with implementation of mitigation.

Impact HYD-3b **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of flooding on- or off-site.**

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Impact HYD-3a, the Plan has the potential to change existing drainage patterns. Transportation projects such as lane widening projects, new highways, as well as bridges/tunnels, and transportation facilities projects that could cross existing creeks, water crossings, rivers or be expanded into wetland areas may impact water bodies by placing fill material within a stream channel. Such changes could result in increased flooding. In addition, implementation of the Plan's land use strategies, while mostly aimed at concentrating development in more compact urban areas, would result in more impervious surfaces including the consumption of 41,546 acres of greenfield lands. Impacts related to the substantial alteration of the existing drainage pattern of the site or area and/or the substantial increase in the rate or amount of surface runoff that would result in flooding on site or off site would be significant, requiring mitigation measures.

*Mitigation Measures*SCAG Mitigation Measures

See **SMM HYD-1** through **SMM HYD-3**.

Project Level Mitigation Measures

See **PMM HYD-1** and **PMM HYD-2**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to flooding and drainage could be significant and unavoidable even with implementation of mitigation.

Impact HYD-3c **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff**

water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Impact HYD-3a, the Plan has the potential to alter existing drainage patterns. Implementation of the Plan's transportation projects as well as land use strategies may increase impervious surfaces, which in turn could increase urban runoff if not regulated, resulting in the transport of greater volumes of polluted water into storm drain systems. Storm water runoff is influenced by rainfall intensity, ground surface permeability, watershed size and shape, and physical barriers. The introduction of impermeable surfaces greatly reduces natural infiltration, allowing for a greater volume of runoff.

As stated previously, paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can also promote scouring of existing drainage facilities, reducing system reliability and safety (see **Table 3.10-3, Pollutants Associated with Transportation**). In addition, this increase in velocity has the potential to create or contribute runoff flows that would exceed the capacity of existing or planned storm water drainage systems. In addition, placing new structures within an existing floodplain can impede flood waters, altering the flood risks both upstream and downstream. As a result, there is a significant impact to substantially create and contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems and providing substantial additional sources of polluted runoff, requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM HYD-1** through **SMM HYD-3**.

Project Level Mitigation Measures

See **PMM HYD-1** and **PMM HYD-2**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to drainage and stormwater facility capacity and potential for polluted runoff could be significant and unavoidable even with implementation of mitigation.

Impact HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Significant and Unavoidable Impact – Mitigation Required.

The entire SCAG region is susceptible to impacts from seismic activity including the occurrence of seiches in Big Bear Lake, Lake Arrowhead, Lake Casistas, Castaic Lake, Pyramid Lake, Lake Elsinore, Diamond Valley Lake, and the Salton Sea. With more than 150 miles of coastline, significant portions of the SCAG region are also at risk of tsunamis.

With regard to flooding, implementation of transportation projects and development projects anticipated to occur under the Plan built in low-lying areas or in proximity to waterways and/or dam inundation zones may be subject to flood hazards. Flooding risks are associated with projects that are located downstream of dams and retention basins or afforded protection by levee system. These areas may be subject to failure as a result seismic ground-shaking or other natural or anthropogenic actions that compromise the stability of such structures. Additional compact urban development, as well as possible expansion of existing urban areas in areas that are potentially subject to flooding as a result of failure of a levee or dam, could create a potential to expose people or structures to a significant risk of loss, injury, or death involving flooding. Furthermore, for the Plan's transportation projects and anticipated development projects that are near the coast in areas susceptible to tsunamis, there is a potentially significant risk of releasing pollutants due to project inundation (See **Figure 3.7-6, Areas Susceptible to Tsunamis**). However, compliance with existing regulatory requirements described above and in 3.10.2 Regulatory Framework would ensure that the land use changes and transportation network would not expose people or structures to a significant risk of loss, injury, or death from flooding, tsunami, or seiche.

The Plan encourages higher-density housing and commercial development in the region's HQTAs. HQTAs are generally located in areas that are subject to Flood Management Plans (FMPs) and major

flood control infrastructure that have been constructed to constrain the 100-year flood in to flood control systems.

Flood-prone areas in Imperial County are managed pursuant to an FMP, which includes a future-oriented approach to planning in flood risk areas. It is a pre-disaster planning approach that is required by FEMA for the County to continue to participate in the National Flood Insurance Program (NFIP). When a community chooses to join the NFIP, it must adopt and enforce minimum floodplain management standards for participation. The floodplain management requirements within the Special Flood Hazard Area (SFHA) are designed to prevent new developments from increasing the flood threat and to protect new and existing buildings from anticipated flood events. When a community chooses to join the NFIP, it must require permits for all development within the SFHA and ensure that construction materials and methods used will minimize future flood damage.

The Los Angeles Flood Control District includes the vast majority of drainage infrastructure within incorporated and unincorporated areas in every watershed in the County, including 500 miles of open channel, 2,800 miles of underground storm drain, and an estimated 120,000 catch basins.

The County of Orange maintains 350 miles of concrete, rock lined and earthen flood control facilities. Flood control facilities are designed to handle water flow from storm drains and other runoff and "channel" the water into the bay or ocean.

The Riverside County Flood Control District owns and operates over 600 miles of channels storm drains and levees along with 74 dams and detention basin that reduce flood risk throughout the District.

Similarly, the San Bernardino County Flood Control District has developed a very extensive system of facilities, including dams, conservation basins, channels, and storm drains to intercept and convey flood flows through and away from the major developed areas of the County.

The Ventura County Flood Control District provides for the control and conservation of flood and storm waters and for the protection of watercourses, watersheds, public highways, life and property in the district from damage or destruction from these waters.

The flood control districts in the SCAG region participate in the NFIP, which is based on a mutual agreement between the federal government and communities. Participating communities agree to regulate floodplain development according to specified criteria and standards. Specifically, communities must adopt and enforce minimum floodplain management regulations so that development, including buildings, is undertaken in ways that reduce exposure to flooding.

The Plan encourages development in HQTAs and other land use patterns of development in areas that are generally located in areas afforded flood protection by flood control facilities and are subject to specific land use planning regulations pursuant to the NFIP; therefore, the Plan would not be expected to result in development in flood hazard zones.

Rising sea levels will increase the potential for coastal flooding and flood hazards in the future (see **Section 3.10.1.7**, above), and the issue of sea-level rise is a critical component of land use planning and hazard analysis in coastal areas. Until the year 2050, most of the climate models predict a similar degree of sea-level rise; however, after 2050, projections of sea-level rise become less certain because of divergent modeling results and differences in various estimates of greenhouse gas emissions (California Climate Action Team 2010). In 2045 it is expected that an additional 1,301 persons and 151 dwelling units would be at risk due to sea level rise.⁷⁷ **Figure 3.10-3, Areas Vulnerable to Sea Level Rise**, shows areas vulnerable to sea level rise with the Plan.

The CCC's Sea-Level Rise Policy Guidance outlines the types of information, analysis, and design considerations the CCC's staff requires to determine whether shoreline projects conform to the Coastal Act policies. In order to be consistent with the Coastal Act, projects must be designed to minimize conflicts with applicable requirements, including that new development: (1) be designed to eliminate or mitigate adverse effects on local shoreline sand supply; and (2) ensure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of a site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along the coast (California Coastal Act Sections 30235 and 30253).

Sea level rise and the risk of tsunamis are existing environmental conditions, and unless the Project will exacerbate these conditions, they are not considered potentially significant impacts under CEQA. As discussed in **Section 3.8, Greenhouse Gas Emissions**, the Plan could result in a significant impact with respect to greenhouse gas emissions (GHGs) and GHGs are considered a primary cause of global climate change and sea level rise. However, the relationship between development in any given region or country and measurable sea level rise is not possible to determine and is therefore considered too speculative to be analyzed any further in this environmental document.

Transportation and anticipated development projects are expected to be built in areas already subject to the flooding hazards discussed above, and existing planning and design standards and regulations would serve to address and minimize the associated potential impacts. In addition, project-specific technical studies would be required to reduce potential risks associated with the Plan to levels of

⁷⁷ SCAG SPM modeling 2019

insignificance. Based on the above analysis and compliance with the regulations outlined in Section 3.10.2, people or structures would not be exposed to a significant risk of inundation due to flooding, tsunamis, and seiches from development associated with the Plan. Therefore, the Plan would result in significant impacts with respect to risk of inundation by flooding, tsunami, or seiche. Consideration of the following mitigation measures is necessary.

Mitigation Measures

SCAG Mitigation Measure

SMM HYD-4: SCAG shall continue to work with local jurisdictions and water quality agencies to encourage flood protection and prevent development in flood hazard areas that do not have appropriate protections. This shall be accomplished through cooperation and information sharing regarding specific alignments and rights-of-way planning for RTP projects, and regional program development as part of SCAG's ongoing regional planning efforts. These include but are not limited to web-based data distribution planning tools and sustainability programs in conjunction with local governments. Such services would potentially consist of an inventory of areas located in or near a 100-year flood hazard zone or hazard areas that would potentially be affected by a failure of a levee or dam; or inundation by seiche, tsunami, or mudflow.

Project Level Mitigation Measure

PMM HYD-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures capable of avoiding or reducing the potential impacts of locating structures that would impede or redirect flood flows, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to flood hazards could be significant and unavoidable even with implementation of mitigation.

Impact HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Significant and Unavoidable Impact - Mitigation Required.

As discussed in Section 3.10.1, there are six RWQCBs (either wholly or in part) that have jurisdiction within the SCAG region (**Figure 3.10-1, Regional Water Quality Control Boards**). The RWQCB is responsible for the protection of the beneficial uses of waters within each county. In general, the RWQCB uses its planning, permitting, and enforcement authority to meet this responsibility and adopts a Water Quality Control Plan (basin plan) to implement plans, policies, and provisions for water quality management. The basin plan for each of the six SCAG counties is discussed in **Section 3.10.2.3**. In accordance with state policy for water quality control, the RWQCB employs a range of beneficial use definitions for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives and discharge conditions and prohibitions. The basin plan identifies existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdiction. The basin plan also includes water quality objectives that are protective of the identified beneficial uses; the beneficial uses and water quality objectives collectively make up the water quality standards for a given region and basin plan.

As discussed under **Impact HYD-2**, implementation of Connect SoCal would increase impervious surfaces due to additional lane miles and conversion of greenfields to developed land. An increase in impervious surfaces would increase water runoff and potentially affect groundwater recharge rates and water quality in the basins. Therefore, the Plan may conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measure

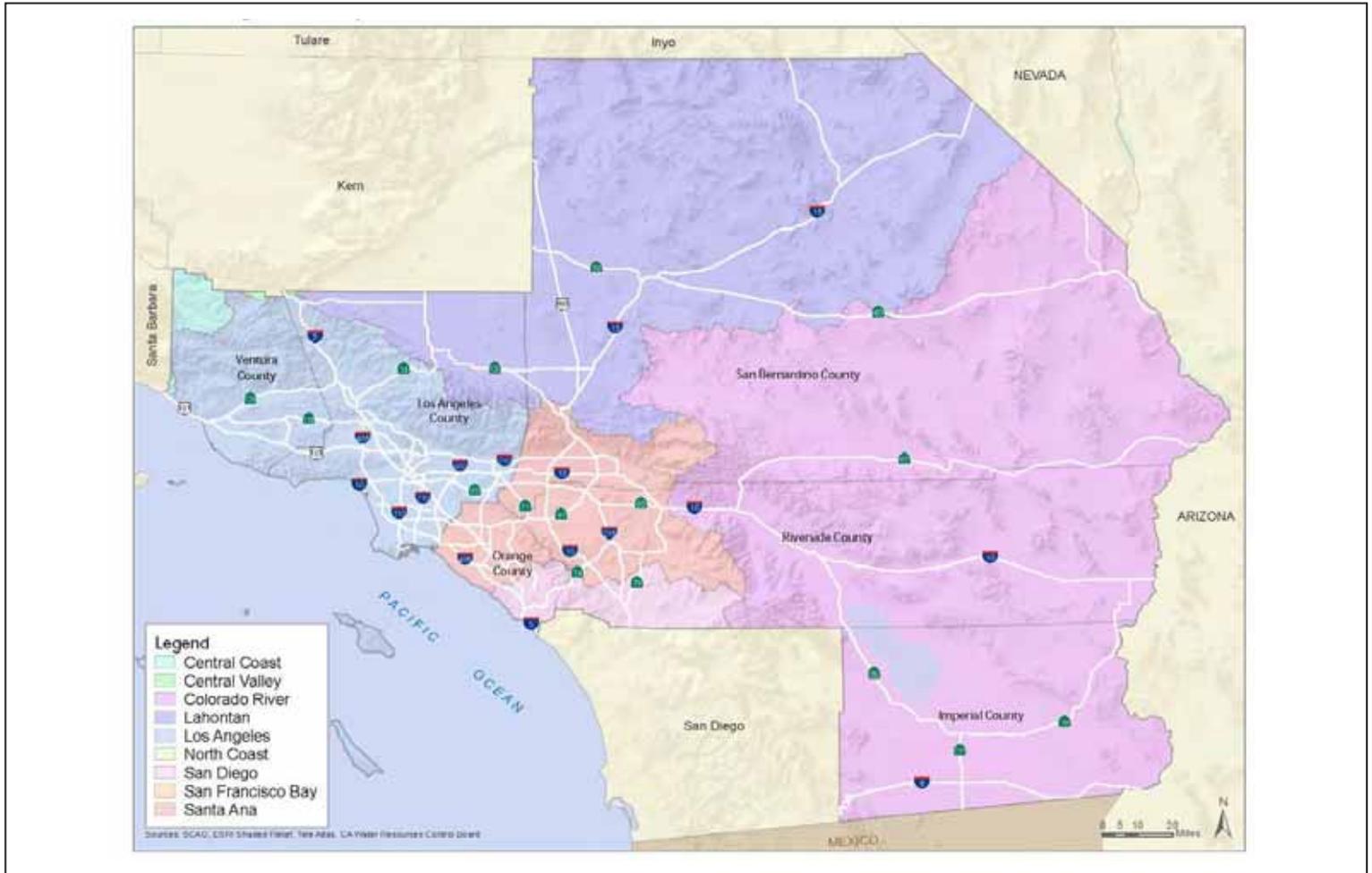
See **SMM HYD-2**.

Project Level Mitigation Measure

See **PMM HYD-2**.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to potential conflicts with water quality control plans and groundwater management plans could be significant and unavoidable even with implementation of mitigation.



SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, CA Water Resources Control Board, 2012

FIGURE 3.10-1

Regional Water Quality Control Boards



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3.11 LAND USE AND PLANNING

This section of the Program Environmental Impact Report (PEIR) describes the existing land use characteristics within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect land use and planning, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.11.1 ENVIRONMENTAL SETTING

3.11.1.1 Definitions

Agricultural Lands Land designated for farming; specifically the production of crops and rearing of animals to provide food and other products.

Air Quality Management Plans: The Air Quality Management Plan (AQMP) is a plan prepared by local air districts and is a regional blueprint for achieving air quality standards and healthful air.

Carbon Sequestration The ability for natural elements such as forests, soils and oceans to store carbon instead of releasing it into the atmosphere, preventing GHG Emissions.

Complete Communities Suburban communities that provide a mix of land uses in strategic growth areas, wherein most daily needs can be met within a short distance of home. Complete communities provide residents with the opportunity to support their local area and run daily errands by walking or bicycling rather than traveling by automobile.

Established Community: Refers to a place where there are existing populations of people that have been living in that place for some period of time. The term is used in Appendix G of the *CEQA Guidelines* under the land use thresholds of significance

Farmland: §21060.1(a) of CEQA (Public Resources Code §§21000-21177) delineates the consideration of agricultural land to include “prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria,

as modified for California,” and is herein collectively referred to as “Farmland.” The following are categories mapped by the CDC:¹

Federal Transportation Improvement Program: Federal Transportation Improvement Program – A six-year comprehensive listing of transportation projects proposed for federal funding, that require a federal action, or are regionally significant, and are within the planning area of an MPO, the last two years are for informational purposes only.

General Plan: California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development" - the document that serves as the foundation for all land use decisions. Every jurisdiction's General Plan includes seven required "Elements" that are mandated by State law; local governments may adopt additional optional Elements to address local priorities and planning goals.

Grazing Land: Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

Greenfield: Also known as “raw land,” land that is privately owned, lacks urban services, has not been previously developed, and is located at the fringe of existing urban areas.

Land Use Designation: A land use classification with associated land use or management policies. Land use designations are applied to specific areas through the county land use planning processes and culminate in the adoption of a land use element to the General Plan. Some land use designations have been established through legislation (e.g., National Forest), while other designations, such as Significant Ecological Areas, have been established through policy or planning processes.

Land Use Element: The land use element is one of seven mandatory elements of the General Plan required pursuant to General Land Use Law in California.

Natural Lands Biologically diverse landscapes such as forested and mountainous areas, shrub lands, deserts and other ecosystems which contain habitat that supports wildlife and vegetation.

¹ California Department of Conservation, Division of Land Resource Protection. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp_guide_2004.pdf, accessed October 25, 2018.

Open Space: Generally understood as any area of land or water which, for whatever reason, is not developed for urbanized uses and which therefore enhances residents' quality of life. Each county and city in California must adopt an open space element as part of its general plan. The element is a statement of local planning policies focusing on the use of unimproved land or water for: 1) the preservation or managed production of natural resources, 2) outdoor recreation, and 3) the promotion of public health and safety. Therefore, open space will be defined by each jurisdiction based on their own unique resources and environment.

Ordinance: A law set forth by a governmental authority; a municipal regulation.

Rangelands: Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

Recreation: Recreation areas may be composed of one large site or several sites located in proximity that together provide a recreation opportunity at the local and/or regional level. These parks may include areas of significant natural resources, as well as more developed activity sites.

Regional Housing Needs Assessment: Regional Housing Needs Assessment – Quantifies the need for housing within each jurisdiction of the SCAG region based on population growth projections. Communities then address this need through the process of completing the housing elements of their General Plans.

Regional Transportation Plan (RTP): A Regional Transportation Plan provides a vision for transportation investments throughout the region. SCAG updates its RTP every four years. Using growth forecasts and economic trends, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs.

Smart Growth: A term that covers a range of development and conservation strategies that help protect the natural environment and make communities more attractive, economically stronger, and more socially diverse. A balance is sought between economically prosperous, socially equitable, and environmentally sustainable community development.

Specific Plan: A specific plan is a tool for the systematic implementation of the general plan. It effectively establishes a link between implementing policies of the general plan and the individual development proposals in a defined area. A specific plan may be as general as setting forth broad policy concepts, or as detailed as providing direction to every facet of development from the type, location and intensity of uses

to the design and capacity of infrastructure; from the resources used to finance public improvements to the design guidelines of a subdivision.

Subregion: A total of 15 subregions represent portions of Southern California with shared interests, issues and geography. Subregions play an important role as a conduit between SCAG and the cities and counties of the region by participating and providing input on SCAG’s planning activities. This involvement helps the Regional Council and its committees make better-informed decisions.

Urban Areas: Urban Areas in the SCAG region represent densely developed territory, and encompass residential, commercial and other nonresidential urban land uses where population is concentrated over 2,500 people in a given locale.

Vacant Land: Vacant land is generally referred to land with no buildings on it.

Zoning Designation: The regulation of the use of real property by local government, which restricts land use to residential, commercial, industrial, or other uses, is affected by the zoning designation allocated to each property. The local governing body considers the character of the property as well as its fitness for particular uses. It must enact the regulations in accordance with a well-considered and comprehensive plan intended to avoid arbitrary exercise of government power.

3.11.1.2 Existing Land Uses

The SCAG region serves as the nation’s gateway for global trade. The SCAG region is comprised of six counties—Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura—and totals approximately 38,000 square miles in area (almost 25 million acres). The region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region includes the second largest city in the nation, Los Angeles, and six additional cities that rank in the top 100 by population: Long Beach (36th), Anaheim (55th), Santa Ana (57th), Riverside (59th), Irvine (91st), and San Bernardino (98th). In addition to its numerous and diverse urban centers that serve as home for the approximately 19 million people, the vast area includes millions of acres of open space and recreational land as well as large amounts of farmland.

The SCAG region stretches from the state borders with Nevada and Arizona to the Pacific Ocean and from the southernmost edge of the Central Valley to the Mexican border. The region includes the county with the largest area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County (**Figure 3.11-1, SCAG Region**). The SCAG region is

comprised of complex patterns of land uses including residential, commercial/office, industrial, institutional, agricultural, and open space land uses (**Figure 3.11-2, Existing Land Uses**). The four largest cities, which provide housing and employment for over half of the population in the SCAG region, are located in the coastal basins that are favored by moderate climate: Los Angeles, Long Beach, Santa Ana, and Anaheim.

While the SCAG region houses nearly half of the state's population, of the 38,000 square miles, nearly 61 percent of the land is open space, most of that is in public ownership, primarily federal. (**Figure 3.11-3, Protected Areas in the SCAG Region**).

As a whole, vacant lands account for more than 20 million of the total 25 million acres of overall land available in the SCAG region. Vacant lands include areas that have not been developed with man-made structures and contain no agricultural uses or water bodies. Generally, these areas are open, and contain natural or disturbed natural vegetation. Rangeland is included in this category. Undeveloped areas of parks are also included. Most vacant land is in an undeveloped state, containing native or non-native vegetation such as grasses, herbaceous plants, shrubs, and trees. Vacant lands outside of urban areas may also provide habitat for biological resources. No or few structures or improvements are present. Rangeland may be open land or fenced over large areas. Rangeland vegetation may be no different than open vacant land, or may contain grassland for grazing livestock. Additionally, vacant lands include abandoned orchards and vineyards, beaches, and vacant land with limited improvements.

Vacant lands with limited improvements include areas where streets have been laid in a subdivision pattern, but no further building or improvements have occurred over time. Lastly, vacant lands include open undeveloped land within urban areas that are not associated with a particular facility. Typically, these areas are vacant lots. They normally contain no structures but may have such improvements as curbs and sidewalks. The land may be in a graded condition with little or no vegetation, or may be in a successional vegetated state, with numerous shrubs and grasses, growing at different rates, in an unkempt condition. Examples of vacant lands in the SCAG region, include but are not limited to, the region's national forests, state parks, national parks and monuments, lands administered by the BLM, other public lands, and various private holdings. Some examples of the larger areas of vacant land in the SCAG region include the Los Padres National Forest, Angeles National Forest, Cleveland National Forest, San Bernardino National Forest, Joshua Tree National Park, Death Valley National Park, the East Mojave Preserve, and Anza Borrego Desert State Park. Military lands are included in a separate category and include, but are not limited to, Barstow Marine Corps Logistics Base, Edwards Air Force Base, El Centro Naval Air Facility, Fort Irwin, Los Angeles Air Force Base, March Air Reserve Base, Naval Warfare Assessment Station Corona, Naval Weapons Station Seal Beach, Point Mugu Naval Air Weapons Station,

Twentynine Palms Marine Corps Combat Center, and Chocolate Mountains Aerial Gunnery Range. With limited exceptions, the military lands are not open to the public.

Active farmlands account for slightly less than one million acres. Approximately 2.3 million acres in the region are developed with a highway network of 80,170 lane miles and transit network of 14,906 route miles.²

3.11.1.3 Established Communities

The SCAG region consists of six counties, 191 cities, and 16 tribal reservations. As shown in **Table 3.11-1, Summary of Established Communities in the SCAG Region**, the population in the unincorporated territories of the counties and the member cities varies widely by area. The table also shows the newest and oldest communities based on the date of incorporation, and current population for each county.

**Table 3.11-1
Summary of Established Communities in the SCAG Region**

	County					
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura
Total county square miles	4,482	4,751	948	7,303	20,105	2,208
Total 2019 county population	190,266	10,253,716	3,222,498	2,440,124	2,192,203	856,598
Oldest city date of incorporation	City of Imperial – 1904	Los Angeles – 1850	Anaheim – 1876	Riverside – 1883	San Bernardino – 1869	San Buenaventura – 1866
Newest city date of incorporation	City of Westmorland – 1934	Malibu – 1991	Aliso Viejo – 2001	Jurupa Valley – 2011	Yucca Valley – 1991	Moorpark – 1983
Largest city by population (2019)	El Centro – 46,248	Los Angeles – 4,040,079	Anaheim – 359,339	Riverside – 328,101	San Bernardino – 219,233	Oxnard – 209,879
Smallest city by population (2019)	Westmorland – 2,461	Vernon – 301	Villa Park – 5,888	Indian Wells – 5,445	Needles – 5,085	Ojai – 7,769
Largest city by square miles	El Centro – 11	Los Angeles – 503	Irvine – 66	Palm Springs – 95	Hesperia – 73	Thousand Oaks – 55
Smallest city by square miles	Westmorland – 5.9	Hawaiian Gardens – 0.96	La Palma – 1.81	Canyon Lake – 5	Grand Terrace – 4	Filmore – 3.3

Source: SCAG. 2019. *Local Profiles*. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 5, 2019. California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019 with 2010 Census Benchmark*. Available online at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>, accessed September 16, 2019.

² SCAG. 2019. Scenario Planning Model Output.

3.11.1.4 Counties

The SCAG region is composed of six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The Plan's land use policies and strategies encourage improvement in the jobs-housing balance by focusing new housing and employment in High Quality Transit Areas (HQTAs). A general discussion of the land use patterns is provided for each of the six SCAG counties below.

- Imperial County:** The nature of land use within Imperial County is linked to its rural beginnings, beginning as an isolated farming community. Imperial County is predominantly an agricultural area.³ However, pressure of growth from nearby San Diego and Riverside Counties have resulted in a significant population boom. Between 2000 and 2018, the County has seen a 33.9 percent population growth, higher than the SCAG region rate of 15.9 percent.⁴ As such, a primary goal as stated in the Land Use Element of the Imperial County General Plan is to “diversify employment and economic opportunities in the County while preserving agricultural activity (Goal 2).”⁵
- Los Angeles County:** One of the largest counties in the country, Los Angeles County encompasses approximately 4,083 square miles, consisting of 88 incorporated cities⁶ and an unincorporated area that accounts for approximately 65 percent of the total land area of Los Angeles County.⁷ Los Angeles County is further divided into nine SCAG subregions: North Los Angeles County; San Fernando Valley Council of Governments; Las Virgenes Malibu Conejo Council of Governments; Arroyo Verdugo; Westside Cities Council of Governments; South Bay Cities Council of Governments; City of Los Angeles; San Gabriel Valley Council of Governments; and Gateway Cities Council of Governments. Between 2000 and 2018, the total population of Los Angeles County increased by 8 percent, which was lower than the SCAG region increase of 15.9 percent. It is also important to note that 53.7 percent of the total 2018 population of SCAG region is in Los Angeles County.⁸

The unincorporated areas in the northern portion of Los Angeles County are covered by large amounts of sparsely populated land, and include Angeles National Forest, part of Los Padres National Forest, and the Mojave Desert. The unincorporated areas in the southern portion of Los

³ Imperial County. 2015. *Imperial County General Plan – Land Use Element*. October.

⁴ SCAG. 2019. Local Profiles. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed August 21, 2019.

⁵ Imperial County. 2015. *Imperial County General Plan – Land Use Element*. October.

⁶ County of Los Angeles. *Incorporated Cities*. Available online at: <https://www.lacounty.gov/government/about-lacounty/incorporated-cities/>, accessed August 22, 2019.

⁷ County of Los Angeles Department of Regional Planning. 2015. *Los Angeles County General Plan – Land Use Element*. October 6.

⁸ SCAG. 2019. Local Profiles. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed August 21, 2019.

Angeles County consist of many non-contiguous land areas, which are often referred to as the County’s unincorporated urban islands. More than half of the unincorporated area is designated for natural resources. The next largest designation is rural, which accounts for approximately 39 percent of the unincorporated areas, followed by residential, which accounts for approximately three percent of the unincorporated areas.⁹

The incorporated areas of Los Angeles represent diverse urban, suburban, and rural land use patterns. Generally, the Land Use Element for each incorporated city encourages the retention of the stable residential neighborhoods and promotes growth to locate in neighborhood districts, commercial and mixed-use centers, along boulevards, industrial districts, and in proximity to transportation corridors and transit stations. These are general characterizations, and do not capture all land use types or patterns associated with the 88 incorporated cities that make up Los Angeles County.

- **Orange County:** Between 2000 and 2018, the total population of Orange County increased by 13.2 percent which was lower than the SCAG region increase of 15.9 percent.¹⁰ The General Plan assessed that Orange County would experience a “steady but declining amount of land available for development.” The General Plan projected a significant level of new housing is anticipated to be constructed in the south and eastern portions of the County, while infill and redevelopment are anticipated to occur in the northern and central regions. Significant commercial and industrial development is anticipated to occur along major transportation arteries over the lifetime of the Plan.¹¹
- **Riverside County:** Between 2000 and 2018, the total population of Riverside County increased by 56.3 percent; much higher than the SCAG region increase of 15.9 percent. Riverside County adopted the County General Plan that strives to create a high-quality, balanced, and sustainable environment for the citizens of Riverside County and to make Riverside County’s communities great places to live, work, and play. Riverside County is the fourth largest county in the State, encompassing approximately 7,400 square miles and extending westward from the Colorado River to within 14 miles of the Pacific Ocean, a stretch of some 200 miles. Riverside County contains diverse geographical features, including deserts, snowcapped peaks, deep valleys, forests, and rich agricultural lands. Set among this rich landscape is a variety of established and/or growing urban,

⁹ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan – Land Use Element*. October 6.

¹⁰ SCAG. 2019. Local Profiles. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed August 21, 2019.

¹¹ Orange County. 2005. *Orange County General Plan – Ch. II Background for Planning (Demographics)*. Available online at: <http://www.ocpublicworks.com/ds/planning/generalplan>, accessed August 22, 2019.

suburban and rural communities. The diversity of Riverside County offers a variety of living environments such as dense urban cities, suburban enclaves, resorts, rural communities, agricultural communities, equestrian communities and sparsely populated outposts.¹²

- **San Bernardino:** Between 2000 and 2018, the total county population increased by 27 percent; above the SCAG region increase of 15.9 percent.¹³ Much of the development in San Bernardino has occurred on unincorporated county land. The General Plan focuses economic development along key corridors and in selected activity centers through the utilization of Strategic Area Overlay districts. The goal of these districts to achieve “greater private sector profit, public benefit, and sustainability over the long haul.”¹⁴
- **Ventura County:** Between 2000 and 2018, Ventura County’s population growth increase of 14.1 percent was lower than the SCAG region increase of 15.9 percent.¹⁵ Ventura County and cities within the county have developed policies seeking to maintain a balance of protecting agricultural land while providing jobs and housing within a heavily used transportation network. The approach has been to provide urban growth boundaries as a way of channeling development and preserving farmland.

3.11.1.5 Cities

There are 191 cities in the six-county area, including the City of Los Angeles, which is the second largest city in the nation and the largest city in California, and the City of Long Beach, which is among the 50 largest cities in the nation and the seventh largest city in California. Urban centers in the SCAG region exist in the form of clusters, linked by freeways and commercial corridors interspersed with identifiable activity centers. Most existing urban development is found along the coastal plains of Los Angeles, Orange, and Ventura Counties, as well as in adjoining valleys that extend inland from the coastal areas. Urban development also has moved into the inland valleys such as the Antelope, San Bernardino, Yucca, Moreno, Hemet–San Jacinto, Coachella, and Imperial Valleys.

¹² County of Riverside. 2019. *County of Riverside General Plan Chapter 3: Land Use Element*. Available at: https://planning.rctlma.org/Portals/14/genplan/2019/elements/Ch03_Land%20Use_041619.pdf, accessed September 9, 2019.

¹³ SCAG. 2019. Local Profiles. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 17, 2019.

¹⁴ City of San Bernardino. November. City of San Bernardino General Plan. Available online at: <http://www.sbcity.org/civicax/filebank/blobdload.aspx?blobid=26199>, accessed August 21, 2019.

¹⁵ SCAG. 2019. Local Profiles. May. Available online at: <https://scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 17, 2019.

Downtown Los Angeles is the largest urbanized center within the SCAG region. Other urbanized areas with substantial density in Los Angeles County include Long Beach, Burbank, Glendale, Pasadena, and Pomona. Office-core centers have emerged in Woodland Hills (Warner Center), Universal City, Westwood, around Los Angeles International Airport (LAX), and Century City. In the other five counties within the SCAG region, urban centers exist in the cities of Riverside, San Bernardino, Santa Ana, Anaheim, Irvine, Oxnard, and Ventura. Development centers in desert areas include the Lancaster-Palmdale corridor in the Antelope Valley (Los Angeles County); the Hesperia-Victorville corridor in Yucca Valley (San Bernardino County); and the Palm Springs–Palm Desert–Indio corridor in the Coachella Valley (Riverside County). El Centro is the county seat and focal point of activity in Imperial County. There is also substantial activity occurring in Imperial County at the three ports of entry along the border with Mexico.

3.11.1.6 Land Use Planning

Many of the key strategies for coping with climate change are linked to land use planning:

- Growth of vehicle-related GHG emissions are influenced by transportation infrastructure.
- Compact development protects ecologically valuable open space and requires less energy and materials to build and operate.
- Reducing GHG emissions from deforestation requires policies to protect woodlands and other valuable carbon sinks. Carbon sinks are natural or artificial reservoirs that remove and store carbon from the atmosphere, thereby offsetting carbon dioxide emissions. Examples include forests, soils, and oceans.
- Land use planning is critical in enabling communities to adapt to sea level rise, more frequent extreme weather conditions, and other climate-related hazards.¹⁶

“Smart growth” is a term that covers a range of development and conservation strategies that help protect the natural environment and make communities more attractive, economically stronger, and more socially diverse. Land use planning is an essential part of any smart growth strategy, and it is especially important when efforts to mitigate GHG emissions and adapt to climate change are needed.

¹⁶ Sofian, Sibarani & Li, Xin & Kusumawardhani, Putri & Widiyani, Wenes. (2015). *Sustainable Systems Integration Model-Metrics in Design Process*. Available online at: https://www.researchgate.net/publication/277478162_Sustainable_Systems_Integration_Model-Metrics_in_Design_Process, accessed September 17, 2019.

SCAG Roles and Responsibilities

In addition to the federal designation as an MPO, SCAG is designated under California state law as the Multicounty Designated Transportation Planning Agency and Council of Governments (COG) for the six-county region. Founded in 1965, SCAG is a Joint Powers Authority, established as a voluntary association of local governments and agencies.

SCAG serves as the regional forum for cooperative decision making by local government elected officials and its primary responsibilities in fulfillment of federal and state requirements includes the development of the Plan; the Federal Transportation Improvement Program (FTIP); and transportation-related portions of local air quality management plans. SCAG's other major functions include determining the regional transportation plans and ensuring programs are in conformity with state air quality plans; periodic preparation of a Regional Housing Need Allocation (RHNA); and intergovernmental review of regionally significant projects.

Regional Cooperation and Subregions

SCAGs role is to bring stakeholders together and participate in regional planning through collaboration and participation in regional programs and on-going dialogue. SCAG seeks feedback from local elected officials and their staff through 15 subregional organizations that have been recognized by the Regional Council as partners in the regional policy planning process. The subregional organizations represent various parts of the SCAG region that have identified themselves as having common interests and concerns. The subregions vary according to geographical size, number of local member jurisdictions, staffing, decision-making structure, and legal status.

Standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environment Committee, and Legislative/Communications & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy. The Regional Council is SCAG's governing body. It consists of 86 elected officials, representing cities, counties, county transportation commissions, transportation corridor agencies, tribal governments, and air districts in the region. The Regional Council has general authority to conduct the affairs of SCAG and directs the actions of the agency throughout the year. Additionally, the Regional Council implements the policy direction provided at the annual General Assembly of the membership, acts upon policy recommendations from SCAG's standing policy committees and external agencies, and appoints subcommittees to study specific programs or issues.

County and City General Plans

Comprehensive land use planning for the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development. General plans contain goals and policies concerning topics that are mandated by state law or that the jurisdiction has chosen to include. Required topics are land use, circulation, housing, conservation, open space, noise, and safety. Other topics that local governments frequently choose to address include sustainability, public facilities, parks and recreation, community design, and growth management, among others. City and county general plans must be consistent with each other. Cities and counties implement their general plans through zoning ordinances. Zoning ordinances provide a much greater level of detail including the general plan land use designations and such information as permitted uses, yard setbacks, and uses that would require a conditional use permit (**Figure 3.11-4, General Plan Land Use Designations**, shows the general land use designations (consolidated for purposes of consistency and mapping) for the six SCAG member counties and 191 cities in the SCAG region).

Existing Land Uses by County

The land use elements of the county and city general plans within the SCAG region generally classify lands in to 20 land use categories (**Table 3.11-2, SCAG Region General Land Use Categories**).

The Plan would add an additional 41,546 urbanized acres to the region by 2045.¹⁷ **Table 3.11-3, Existing Urban, Suburban, and Rural Land Use Patterns by County** displays the percent of each county in rural, urban and suburban land uses. The following paragraphs describe the existing land use categories found within the SCAG region.

¹⁷ SCAG SPM Model Output October 2019, Greenfield Land Consumed

**Table 3.11-2
SCAG Region General Land Use Categories**

General Land Use Category	Land Use Category
Residential	Single Family Residential
	Multi-Family Residential
	Mobile Homes and Trailer Parks
	Mixed Residential
	Rural Residential
Specific Plan	Specific Plan
Mixed Residential and Commercial	Mixed Residential and Commercial
Commercial	General Office
	Commercial and Services
Mixed Commercial and Industrial	Mixed Commercial and Industrial
Industrial	Industrial
Infrastructure and Institutional Land Uses	Facilities
	Education
	Military Installations
	Transportation, Communications, and Utilities
Open Space, Agriculture, and Vacant Land Uses	Open Space and Recreation
	Agriculture
	Vacant
	Water
	Undevelopable or Protected Land

Source: SCAG. 2019, Connect SoCal

**Table 3.11-3
Existing Urban, Suburban, and Rural Land Use Patterns by County**

County	Urban Land Use Pattern (Square Miles)	Percent Urban Land of Overall Area	Suburban Land Use Pattern (Square Miles)	Percent Suburban Land of Overall Area	Rural Land Use Pattern (Square Miles)	Percent Rural Land of Overall Area
Imperial	77.8	1.8%	34.6	0.8%	4327.0	97.5%
Los Angeles	465.6	12.3%	522.8	13.8%	2789.8	73.8%
Orange	144.9	20.6%	191.9	27.3%	366.0	52.1%
Riverside	82.2	4.5%	85.1	4.7%	1647.5	90.8%
San Bernardino	348.9	1.8%	234.5	1.2%	19348.1	97.1%
Ventura	233.2	3.3%	230.8	3.2%	6667.2	93.5%
SCAG region	1352.5	3.6%	1299.8	3.4%	35145.8	93.0%

Source: SCAG Existing Land Uses (03/2017). Land use patterns have been interpreted from the following existing land use categories:

- **Urban:** multi-family residential, general office, commercial and services, facilities, education, industrial, transportation/communications/utilities, mixed commercial and industrial, and under construction.
- **Suburban:** single-family residential, mobile homes and trailer parks, mixed residential, and mixed residential and commercial
- **Rural:** rural residential, military installations, open space and recreation, agriculture, vacant, water, undevelopable, and unknown

Residential Land Uses

The residential pattern of the SCAG region is largely shaped by topography. Most residents live in southern parts of Ventura, Los Angeles, and San Bernardino Counties, with the urban form limited by national forests and mountains. In Orange County, residents live near the coast and west of the Cleveland National Forest. Residents also have moved inland to the high desert in northern Los Angeles and San Bernardino Counties and the low desert in the Coachella and Imperial Valleys.

The majority of medium- and high-density housing in the region is found in the urban core of the region, in Downtown Los Angeles, East Los Angeles, the South Bay, and the “West Side” of Los Angeles. Large cities, such as Long Beach, Santa Ana, Glendale, Oxnard, and Pasadena, also have concentrations of high-density development in their downtown areas. Several beach communities, such as the Cities of Santa Monica, Manhattan Beach, Hermosa Beach, Redondo Beach, Huntington Beach, and Newport Beach, have high density close to the ocean.

Surrounding suburbs are predominantly low-density housing tracts. Low-density housing expands west into Ventura County, east through southeast Los Angeles County, throughout much of Orange County, and through the western Inland Empire. The resort communities and cities of the Coachella Valley in Riverside County also are built primarily on a low-density scale.

The developing land on the urban fringe, such as the Antelope Valley of Los Angeles County and the Victorville-Hesperia area, Lucerne Valley, and Yucca Valley of San Bernardino County, also are primarily low-density residential. The Imperial Valley in Imperial County is primarily an agricultural region with a growing, yet still relatively small, population that lives in primarily low-density developments. The SCAG region also contains mixed residential and commercial land uses.

The following provides definitions of the types of residential land uses found in the SCAG region:

The residential category of land uses in the SCAG region includes areas of single family residences, multi-unit dwellings, and mobile homes. Also included is a mixed residential category that consists of two or more of the aforementioned groups.

Single Family Residential

These residential areas are typically made up of detached dwellings, where each structure houses a single family, located in an urban or suburban setting. (Single family residential units located in a rural setting are classified as code 1151 or code 1152 under Rural Residential.) These single family residences are usually served by all utilities, are on paved streets, and are

provided with or have access to all urban facilities such as schools, parks, police, and fire stations.

Single family residential neighborhoods are normally large contiguous areas of residential lots. Some areas have subdivisions or tracts of homes with similar size or architectural design. In these areas the roofs may be similar in shape or color when viewed on the aerial photo. Typically, single family lots contain landscaped front and back yards, one driveway, and one walkway either to the sidewalk or to the driveway. Some lots may have swimming pools in the back yards. High or low density is determined by the size of the lot on which the residence is located. If an area is under construction, and the residential lots or pads are easily identifiable, then the area can be properly mapped.

High-Density Single Family Residential. This category contains single family detached residential units with a unit density of >2 units/acre. These units are typically found in modern urban and suburban subdivisions.

Low-Density Single Family Residential. This category contains single family detached residential units with a unit density of <2 units/acre. These units may include areas of urban ranch homes or estates. Also included are urban areas where single family lots have been established but houses have not been built on all of them and are not likely to be built in the near future. The homes are spaced at a density of <2 units/acre. In some situations, a low-density area may be rural in appearance because it was once a rural area but is now within the urban setting or a transitional area.

Multi-Family Residential

Multi-family units are attached residences, apartments, condominiums, and townhouses. Multi-family residences are usually served by all utilities, are on paved streets, and are provided with or have access to all urban facilities such as schools, parks, police and fire stations. Senior citizen apartment buildings are included in these classes. Also included are off-campus university owned housing and off-campus fraternity/sorority houses.

Mixed Multi-Family Residential. This category is used when there is a mixture of multi-family uses (duplexes, triplexes, apartments, condominiums, and/or townhouses of any type), none of which is over 2.5 acres in size, and no one type dominates. This situation may occur in older neighborhoods.

Duplexes, Triplexes, and 2- or 3-Unit Condominiums and Townhouses. This category is composed of duplexes, triplexes, and 2- or 3-unit condominiums and townhouses that are attached multi-family structures.

Duplex and triplex residences may occur together or mixed with single family houses in some older neighborhoods (see code 1121 and 1140). Typically, the multi-unit structure is one story located on a lot approximately the same size as nearby single-family residential lots. There may be minimal landscaping or yard space. On the aerial photo, one may be able to count the driveways, sidewalks, entryway overhangs, chimneys, or air conditioning units corresponding to the number of units in the structure. Some newer duplexes and triplexes occur as 2- or 3-unit structures in complexes as condominiums and townhouses, with common grounds.

Low-Rise Apartments, Condominiums, and Townhouses. This category includes multi-family structures of one to two stories and approximately 10 to 18 units/acre. The area consists of either a large single structure or a group of structures, of four or more units each, in a complex with associated common grounds, facilities and parking areas.

Typically, low-rise apartments, condominiums, and townhouses occur together in large contiguous areas since land use is restricted to multi-family zoned areas. However, in some areas one to a few buildings may occur on individual lots in single family residential neighborhoods. In newer neighborhoods they may appear as a large complex composed of many structures of similar architecture with common grounds and facilities. Some older structures are U-shaped or O-shaped with a swimming pool in the middle. A parking level maybe located underneath the living area, in which case it is not counted as a story. Parking for larger complexes may include garages or carports along the periphery of the complex. Low-rise apartments and condominiums are the most common types of multi-family structures in the study area. Also included are off-campus fraternity/sorority houses and senior citizen apartments. Residential units located above first floor commercial in buildings along a commercial strip are considered commercial use (1223, 1224). An area mapped as Low-Rise Apartments, Condominiums, and Townhouses may contain an occasional Medium-Rise building.

Medium-Rise Apartments and Condominiums. This category includes multi-family structures of three to four stories and >18 units/acre. The area consists of a large single structure or a group of structures, of four or more units each, in a complex with associated common grounds, facilities and parking areas.

Many medium-rise apartments and condominiums occur in older areas as hotel/apartments. Several may be located next to each other in compact areas. Some may occur as large complexes, composed of many structures of similar architecture, with common grounds and facilities. Medium-rise apartments and condominiums are not as common as low-rise. Senior citizen apartments are included. If an area contains commercial use on the first floor and multi-family residential use on the upper floors, then the area is considered strip commercial (codes 1223, 1224). Some older urban core cities contain apartment and condominium buildings predominantly of three, four, or more stories. An area mapped as Medium-Rise

may contain occasional Low-Rise or High-Rise buildings. Use of stereoscopic viewing of aerial photos is essential in determining relative height in relation to other structures in the area.

High-Rise Apartments and Condominiums. This category includes multi-family structures of five stories or greater and >18 units/acre. The area consists of either a single large structure or a group of adjacent structures with common grounds, facilities and parking areas.

Many high-rise apartments and condominiums occur as single or groups of high residential towers. Parking may be underground or in an adjacent parking structure. Smaller high-rise structures may contain only residential units with no other uses. High-rise residential structures are configured to maximize availability of window access to each individual residential unit. Thus the building may be long and narrow, or contain narrow lateral wings that provide window access. Senior citizen apartments are included. If an area contains commercial use on the first floor and multi-family residential use on the upper floors, then it is considered High-Rise Apartments and Condominiums.¹⁸

Commercial Land Uses

Across the region, commercial development typically follows transportation corridors. Office development generally locates at the terminals of major transportation features, particularly airports and train stations, or at the intersection of major freeways. Downtown Los Angeles is the historical center of jobs in the region. Los Angeles International Airport (LAX) and John Wayne Airport have considerable office clusters around them. Office buildings tend to cluster around major intersections, including areas such as the “El Toro Y” (intersection of the I-5 and the I-405) and the “Orange Crush” (intersection of I-5, SR-22, and SR-57) in Orange County. The SCAG region also contains some mixed commercial and industrial land uses.

Infrastructure and Institutional Land Uses

Institutional land uses, which include large government and private operations, such as military bases, airports, and universities, encompass a considerable footprint in the region. Military operations consume a substantial quantity of land. The 10 active duty military facilities in the SCAG region are listed below:

- El Centro Naval Air Facility
- Los Angeles Air Force Base
- Joint Forces Training Base, Los Alamitos

¹⁸ Aerial Information Systems. 1990. *Southern California 1990 Aerial Land Use Study*. Available online at: <http://egis3.lacounty.gov/dataportal/2012/04/10/countywide-zoning/>, accessed August 28, 2019.

- Naval Weapons Station, Seal Beach
- Naval Warfare Assessment Station, Corona
- March Air Reserve Base
- Barstow Marine Corps Logistics Base
- Fort Irwin
- Twentynine Palms Marine Corps Combat Center
- Naval Base Ventura County

In addition, land controlled by Edwards Air Force Base, based in Kern County, extends into Los Angeles and San Bernardino Counties. The Chocolate Mountains Aerial Gunnery Range in Imperial and Riverside Counties is also an institutional use that is off-limits to the public.

A substantial quantity of land is dedicated to airports in Los Angeles County. In the Antelope Valley, a large portion of land is dedicated to airport uses at Palmdale Airport. LAX is another major institutional land use. Bob Hope Airport and Long Beach Airport are the other commercial airports in Los Angeles County. Airports in other parts of the region include Ontario International Airport, Southern California Logistics Airport, and San Bernardino International Airport in San Bernardino County, Palm Springs International Airport and March Inland Port in Riverside County, John Wayne Airport in Orange County, and numerous general aviation airports scattered across the SCAG region.

University and college campuses are located in every county of the SCAG region. The largest are universities in the University of California system (Irvine, Los Angeles, and Riverside) and the California State University system (Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, San Bernardino, and San Diego-Imperial Valley Campus). California Polytechnic University at Pomona and the University of Southern California are the other large universities in the region. There are numerous smaller universities and colleges in the region, both public and private, as well as an extensive community college system that spans the SCAG region.

Industrial Land Uses

The main focal points of industrial activity in the region are the Ports of Los Angeles and Long Beach. Altogether, these adjacent ports handle approximately 20 percent of the volume imported into the

country.¹⁹ The industrial activity spreads north from the ports along the Alameda Corridor (a 20 mile freight line connecting downtown Los Angeles to the Ports of Los Angeles and Long Beach), and extends east through the City of Industry and the City of Commerce toward San Bernardino County.

Many manufacturing industries, distribution centers, and warehouses have established businesses in Riverside and San Bernardino Counties (also known as the Inland Empire). This activity has made the Inland Empire a distribution center for the region, state, and nation. Adding to the goods coming by highway and rail through San Bernardino County are goods coming to the county by air through several airports that cater to air cargo, primarily Ontario International Airport. Industrial uses tend to cluster around cargo-handling airports to take advantage of transportation options.

Significant air cargo and associated industrial land uses also are located around LAX. A third port in the region, located in Port Hueneme in Ventura County, is also surrounded with industrial activity.

Along the Mexican border, the three ports of entry in Imperial County have large amounts of commerce going back and forth between the two countries.

Extraction activities in the region focus on oil and minerals. Ventura County has extensive extraction activities in the far southwestern part of the county and along Route 126. These activities extend into Los Angeles County to the area around the City of Santa Clarita. Oil wells and oil refineries remain across southern Los Angeles County. Oil drilling and refining also takes place in Orange County, near Huntington Beach, Newport Beach, and Brea. Significant mining operations take place in the eastern portion of Imperial County. Wind energy generation facilities are located in the San Geronio Pass between Banning and Palm Springs.

Open Space, Recreation, and Agricultural Land Uses

There are vast areas of open space, recreation, and agricultural land uses throughout the SCAG region (**Figure 3.11-6, SCAG Region Open Space, Recreation, and Agricultural Land Uses**). Open spaces vary in size and location and, generally include but are not limited to, public parks, recreational facilities, national forests, national parks, national monuments, military reservations, and other areas planned for such uses. Some open spaces are comprised of lands that have been acquired by public agencies or private institutions for long-term management as open space. Other open space is comprised of land

¹⁹ U.S. Department of Transportation, Bureau of Transportation Statistics. 2018. *Freight Facts and Figures 2017*. January. Available online at: <http://aapa.files.cms-plus.com/Statistics/Freight%20Facts%20and%20Figures%202013.pdf>, accessed March 21, 2019.

designated for passive and active recreation. In addition, there are undeveloped areas in the SCAG region that are natural lands, designated for land uses other than open space or recreation.

Agriculture may be included as open space depending on the location and use. Agriculture may range from open grasslands and rangelands used for livestock grazing to areas supporting row and tree crops. These lands although in agricultural use, may also provide some habitat value, particularly open grasslands grazing land and rangelands. In yet other instances, lands may be designated or zoned as open space but still allow for development of a single-family home. Lands evaluated as natural lands in the Plan are generally evaluated as wildlife habitat in **Section 3.4, Biological Resources** and not agricultural lands. In general, in this PEIR, agricultural lands are farmlands and natural lands provide valued habitat.

Farmlands and rangelands are agricultural lands that are part of the region's open landscape and entail various types and degrees of modifications to natural lands. Also discussed in **Section 3.2, Agricultural and Forestry Resources**, farmlands include irrigated and non-irrigated crop production. Rangelands include any expanse of natural land that is not fertilized, irrigated, or cultivated and is predominately used for grazing by livestock and wildlife.

The distribution of farmlands and rangelands in the SCAG region and vicinity is based primarily on data provided by the California Department of Conservation (CDC). It also provides a summary of existing plans and programs in the region to conserve agricultural lands, plus a summary of growth management plans in other states that include provisions for conserving agricultural lands.

Based on the most recent available data from the CDC in 2016 (verified by SCAG, and its member jurisdictions), there are approximately 2,603,158 acres of agricultural lands in the SCAG region consisting of 1,482,826 acres of grazing land and 1,120,312 acres of farmland which includes, Farmland of Statewide Importance, Prime Farmland, Unique Farmland, and Farmland of Local Importance.²⁰

There is substantially more farmland than rangeland in Riverside and Imperial Counties and the reverse in Los Angeles, Orange, San Bernardino, and Ventura Counties. By comparison, Kern County has more farmland than the six SCAG counties combined and also has more total acres of rangeland.

Historically, development patterns in the region have been tied as much to the conversion of agricultural lands as to the consumption of natural lands for urban uses. A key issue in the region today is whether the high rate of farmland conversion in recent years can be slowed to prevent irreversible losses. If the

²⁰ Department of Conservation. 2016. *Farmland Mitigation and Monitoring Program (FMMP)*. Available at: <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>, accessed March 21, 2019.

intense conversion of agricultural lands continues unabated, the existing inventory of agricultural lands could be reduced by 700,000 acres before 2030.²¹

Tribal Lands

Approximately 266,112 acres, or 416 square miles, of the SCAG region consist of tribal lands from 16 different tribal affiliations (**Table 3.11-4, Tribal Lands within the SCAG Region**, lists the name, county, and acreage of tribal lands within the SCAG region; and **Figure 3.11-7, Tribal Lands in SCAG Region**, shows where tribal lands are located within the SCAG region). Indian Trust Assets (ITAs) include land, natural resources, money, or other assets held by the federal government in trust or that are restricted against alienation for Indian tribes or individuals.²² The Department of Interior Order No. 3175 requires all its bureaus and offices to explicitly address anticipated effects on ITAs in planning, decision, and operation documents.²³ The Bureau of Indian Affairs (BIA) develops inventories of ITAs for all Indian tribes. Tribes must conduct soil and range inventories, land evaluations and range utilization; collect data about soil productivity, erosion, stability problems, and other physical land factors for program development, conservation planning, and water rights claims settlements. In addition, tribes are required to develop land management plans.²⁴

**Table 3.11-4
Tribal Lands within the SCAG Region**

Name	County	Acres
Agua Caliente	Riverside	31,521
Augustine	Riverside	645
Cabazon	Riverside	1,936
Cahuilla	Riverside	18,485
Chemehuevi	San Bernardino	30,823
Colorado River	Riverside	19,409
Colorado River	San Bernardino	28,598
Fort Mojave	San Bernardino	6,193
Fort Yuma	Imperial	42,737
Morongo	Riverside	31,439

²¹ SCAG. 2016. *2016 Regional Transportation Plan/ Sustainable Communities Strategy FEIR*. November.

²² U.S. Bureau of Reclamation. *5.0 Indian Trust Assets and Tribal Lands*. Available online at: https://www.usbr.gov/mp/cao/newmelones/docs/5.0-Indian_Trust_Assets.pdf, accessed August 27, 2019.

²³ Ibid.

²⁴ Bureau of Indian Affairs, Branch of Agriculture and Rangeland Development. Accessed 24 July 2019. Available online at: <http://www.bia.gov/WhoWeAre/BIA/OTS/NaturalResources/AgrRngeDev/index.htm>, accessed August 27, 2019

Name	County	Acres
Pechanga	Riverside	4,454
Ramona	Riverside	548
San Manuel	San Bernardino	673
Santa Rosa	Riverside	10,916
Soboba	Riverside	5,818
Torres-Martinez	Imperial	10,243
Torres-Martinez	Riverside	21,286
Twenty-Nine Palms	Riverside	227
Twenty-Nine Palms	San Bernardino	161

Source:

SCAG. 2011. *Tribal Reservations in the SCAG Region*. Available online at: <http://www.scag.ca.gov/Documents/scagTribalRegions.pdf>, accessed March 22, 2019.

Sixteen tribal lands and their respective governments are in the SCAG region, including the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Chemehuevi Reservation, Colorado River Reservation, Fort Mojave Indian Tribe, Fort Yuma Reservation, Morongo Band of Mission Indians, Pechanga Band of Luiseno Indians, Ramona Band of Mission Indians, San Manuel Band of Mission Indians, Santa Rosa Band of Mission Indians, Soboba Band of Luiseno Indians, Torres-Martinez Desert Cahuilla Indians, and Twenty-Nine Palms Band of Mission Indians.

Coastal Programs

The Coastal Program in the SCAG region consists of approximately 350,956 acres, or 548 square miles, and includes the islands off of the Southern California coast. The Coastal Program affects Ventura, Los Angeles, and Orange Counties in addition to 28 incorporated cities (**Table 3.11-5, Cities in the SCAG Region with Coastal Zone Jurisdiction**). Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a CDP from either the CCC or the city or county having the jurisdictional authority to issue a CDP. To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).²⁵

²⁵ California Coastal Commission. 2019. *The Coastal Act*. Available online at: <https://www.coastal.ca.gov/laws/>, accessed August 28, 2019.

**Table 3.11-5
Cities in the SCAG Region with Coastal Zone Jurisdiction**

Name	County
Calabasas	Los Angeles
El Segundo	Los Angeles
Hermosa Beach	Los Angeles
Long Beach	Los Angeles
Los Angeles	Los Angeles
Malibu	Los Angeles
Manhattan Beach	Los Angeles
Palos Verdes Estates	Los Angeles
Rancho Palos Verdes	Los Angeles
Redondo Beach	Los Angeles
Santa Monica	Los Angeles
Torrance	Los Angeles
Aliso Viejo	Orange
Costa Mesa	Orange
Dana Point	Orange
Huntington Beach	Orange
Irvine	Orange
Laguna Beach	Orange
Laguna Niguel	Orange
Newport Beach	Orange
San Clemente	Orange
San Juan Capistrano	Orange
Seal Beach	Orange
Westminster	Orange
Oxnard	Ventura
Port Hueneme	Ventura
Ventura	Ventura

Source:

California Coastal Commission. South Coast Region. Available online: https://www.coastal.ca.gov/nps/Web/cca_socoast1.htm, accessed March 22, 2019.

Regional Habitat Conservation Plans and Multi-Species Habitat Conservation Plans

HCPs and NCCPs are discussed more fully in **Section 3.4, Biological Resources**. There are 13 HCPs and NCCPs within the SCAG region (See **Section 3.4, Biological Resources**, and **Table 3.4-12, HCP's and NCCP's in the SCAG Region**). As a group, these plans provide protection for multiple species by conserving habitats, identifying locations for future mitigation efforts, providing conservation guidance

and practices, and preserving important wildlife linkages. More than 20 million acres of open space within the SCAG region are currently protected under an HCP or NCCP, or will be protected by a future HCP or NCCP that is currently in its planning stages. Major conservation areas in the region are displayed on **Figure 3.11-8 Los Angeles County Significant Ecological Areas** and **Figure 3.11-9 Regional Conservation Plans in the SCAG Region**.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is part of a comprehensive planning effort to address species conservation, land use, and transportation. The integration of thoughtful conservation planning with urban development and transportation is providing a more efficient, streamlined, cost-effective way of planning for the future. Approximately \$2.2 billion has been spent on 25 large transportation projects within the Western Riverside County MSHCP. Through the streamlined permitting process, it is estimated that federal and state agencies, and other non-federal landowners saved between \$126 and \$278 million on these important infrastructure projects.²⁶

Lower Colorado River MSHCP

On April 4, 2005, the Secretary of the Interior and representatives from agencies within Arizona, California, and Nevada implemented the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The LCR MSCP was created to balance the use of the Colorado River water resources with the conservation of native species and their habitats. The program area extends over 400 miles of the lower Colorado River from Lake Mead in Nevada, through southern California, to the southernmost border with Mexico. The HCP calls for the creation of over 8,100 acres of habitat for fish and wildlife species and the production of over 1.2 million native fish to augment existing populations. The Bureau of Reclamation is the implementing agency for the LCR MSCP.²⁷

Orange County Southern Subregion HCP

The Orange County Southern Subregion HCP was approved in 2007 for a 75-year permit. This HCP is a program that established a permanent habitat reserve and perpetual land management program. This regional HCP covers large tracts of land in the County of Orange and the family-held Rancho Mission

²⁶ Regional Conservation Authority. *Western Riverside County Multiple Species Habitat Conservation Plan*. Available online at: <http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/>, accessed August 27, 2019.

²⁷ Lower Colorado River Multi-Species Conservation Program. 2005. Overview. Available online at: <http://www.lcrmscp.gov/index.html>, accessed March 22, 2019.

Viejo. Benefits provided by this HCP include the creation of a subregion habitat reserve program including conservation of coastal California gnatcatcher habitat.²⁸

Orange County Central-Coastal HCP/NCCP

In the 18 years since the Orange County Central-Coastal HCP/NCCP was completed, numerous regional HCPs have been approved or are in development throughout California. The NCCP program has also expanded to address a broad range of important natural habitats throughout the state.²⁹

Coachella Valley MSHCP

The Coachella Valley MSHCP was adopted in 2008 and preserves over 240,000 acres of natural habitat in the Coachella Valley. This MSHCP protects 27 sensitive plant and animal species. This plan is managed by the Coachella Valley Conservation Commission.³⁰

Desert Renewable Energy Conservation Plan (DRECP)

The DRECP, a part of the Bureau of Land Management, was undertaken due to statewide and national concerns regarding habitat fragmentation and loss of habitat for listed and candidate species. The DRECP is a landscape-level plan that streamlines renewable energy development, conserves valuable desert ecosystems and provides outdoor recreation opportunities. The DRECP was developed by the BLM, the U.S. Fish and Wildlife Service, the California Energy Commission and the California Department of Fish and Wildlife, collectively known as the Renewable Energy Action Team (REAT). Revisions to the Final Environmental Impact Statement, released in November of 2015, were made as a result of internal reviews, protests, Areas of Critical Environmental Concern (ACEC) public comments and other public feedback.³¹ The DRECP is a proposed multispecies HCP intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California, while also facilitating the timely permitting of renewable energy projects to help meet the state's goal of providing at least 33 percent of electricity generation through renewable energy by 2020, 50

²⁸ U.S. Fish and Wildlife Service. *Habitat Conservation Plan Documents - Orange County Southern Subregion HCP*. Available online at: <https://www.fws.gov/carlsbad/HCPs/SoOrangeCoSubRegionHCP.html>, accessed August 27, 2019.

²⁹ U.S. Fish and Wildlife Service. *Habitat Conservation Plan Documents - Orange County Central-Coastal HCP/NCCP*. Available online at: <https://www.fws.gov/carlsbad/HCPs/documents/Central%20Coastal%20OC%20NCCP%20Parts%20I%20&%20II%20-%20Plan.pdf>, accessed August 28, 2019.

³⁰ Coachella Valley MSHCP. *Coachella Valley MSHCP*, Available online at: <http://www.cvmshcp.org/>, accessed August 28, 2019.

³¹ Bureau of Land Management. *Desert Renewable Energy Conservation Plan Frequently Asked Questions*. Available at: https://www.drecp.org/faqs/DRECP_FAQs.pdf, accessed September 9, 2019.

percent by 2026, and 100 percent by 2045, as well as the federal government's goal of increasing renewable energy generation on public land. As planned, the approved DRECP and associated permits would provide renewable energy developers and entities undertaking DRECP conservation efforts with authorization for the incidental take of certain endangered, threatened, and special-status plant and animal species for covered activities (as defined in the DRECP). Such authorizations would be granted by agencies that are formal participants in the DRECP.³²

California Desert Conservation Area Plan

The California Desert Conservation Area Plan is used to manage BLM-controlled areas. The BLM also implements biological resource management policies through its designation of Areas of Critical Environmental Concern.³³

West Mojave Plan. The West Mojave Plan is an amendment to the Bureau of Land Management's (BLM) California Desert Conservation Area Plan. The West Mojave Plan also has a proposed HCP component that, if and when finalized, would provide a program for complying with the federal ESA on private lands within the West Mojave Plan area. Together, the West Mojave Plan and the proposed HCP component would cover over 9 million acres north of the Los Angeles metropolitan area with a purpose of creating a comprehensive strategy to conserve and protect almost 100 sensitive desert species and natural communities.³⁴

3.11.2 REGULATORY FRAMEWORK

3.11.2.1 Federal

United States Department of Transportation Act, Section 4(f) of 1966 (49 U.S.C. § 303)

The Department of Transportation Act was enacted to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) requires a comprehensive evaluation of all environmental impacts resulting from federal-aid transportation projects

³² California Energy Commission. 2011. Desert Renewable Energy Conservation Plan Environmental Impact Report. December. Available online at: <http://www.energy.ca.gov/2011publications/DRECP-1000-2011-001/DRECP-1000-2011-001.pdf>, accessed March 22, 2019.

³³ U.S. Department of Interior, Bureau of Land Management. *California Desert Conservation Area Plan*. Available online at: https://eplanning.blm.gov/epl-front-office/projects/lup/66949/82080/96344/CDCA_Plan.pdf, accessed August 28, 2019.

³⁴ U.S. Department of Interior, Bureau of Land Management. *California Desert Conservation Area Plan*. Available online at: https://www.blm.gov/ca/pdfs/cdd_pdfs/wemo_pdfs/plan/wemo/Vol-1-Chapter1_Bookmarks.pdf, accessed August 28, 2019.

administered by the Federal Highway Administration, Federal Transit Administration, and Federal Aviation Administration that involve the use – or interference with use – of the following types of land.

- Public park lands;
- Recreation areas;
- Wildlife and waterfowl refuges; and
- Publicly or privately-owned historic properties of federal, state, or local significance.

Endangered Species Act of 1973 (16 USC 1531 et seq.)

The Federal Endangered Species Act (FESA) was established by Congress in order to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such ... species.” The US Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (FESA), which designates critical habitat for Endangered species. This enables USFWS to carry out its mission to conserve, protect, and enhance the nation’s fish and wildlife and their habitats for the continuing benefit of people. Critical habitat areas cannot be disturbed without permission from the USFWS and other federal agencies, depending on land ownership. The USFWS also manages a system of land and waters for the conservation of wildlife and associated ecosystems. These National Wildlife Refuges are primarily managed for the preservation and protection of unique or important resources and ecosystems. Habitat Conservation Plans (HCPs), established under Section 10(a)(1)(B) of the ESA, are planning documents that provide for partnerships with non-federal parties to conserve the ecosystems upon which listed (and candidate) species depend, ultimately contributing to their recovery. The USFWS requires HCPs as part of an application for an incidental take permit. HCPs describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded. HCPs may be prepared on a project level when projects will require the acquisition of an Incidental Take Permit. Regional HCPs may also be prepared in an effort to protect threatened and endangered species during the land use planning process.

Department of Housing and Urban Development Act

The Department of Housing and Urban Development Act created the U.S. Department of Housing and Urban Development (HUD) as a Cabinet-level agency. HUD is responsible for national policy and programs that address housing needs in the U.S. HUD is responsible for enforcing fair housing laws. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S. Code, § 4601 et seq.), passed in 1970 and amended in 1987, is intended to provide for uniform and equitable treatment for persons displaced through federally-funded or assisted transportation and redevelopment projects that require property acquisition. The act lays out rules for notification, relocation counseling, social services or assistance for disabled residents, and compensation for replacement housing and moving costs. The rules stipulate that replacement housing must be comparable to previous housing in terms of location, size, access to jobs and public facilities, and must be “decent, safe, and sanitary.” The rules apply if federal funds are in any phase of the program or project, even if the property acquisition itself is not federally funded.

Federal Coastal Zone Management Act

The Federal Coastal Zone Management Act (CZMA; 16 USC 1451–1464, Chapter 33; Public Law 92-583, October 27, 1972; 86 Stat. 1280), administered by the National Oceanic and Atmospheric Administration (NOAA), provides for the management of the nation’s coastal resources, including the Great Lakes. The goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The CZMA outlines three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

Federal Land Policy and Management Act (FLPMA) of 1976, as Amended

The FLPMA (Public Law 94-579) governs how public lands administered by the Bureau of Land Management (BLM) are managed. FLPMA provides guiding principles for BLM land management including multiple use, sustained yield, and environmental protection. The intent of FLPMA is to ensure that the BLM manages public lands so that they are utilized in the combination that will best meet the present and future needs of the American people for renewable and non-renewable natural resources.

FLPMA addresses topics such as land use planning, land acquisition, fees and payments, administration of federal land, range management, and right-of-ways on federal land. FLPMA has specific objectives and time frames in which to accomplish these objectives, giving it more authority and eliminating the uncertainty surrounding the BLM’s role in wilderness designation and management.

Code of Federal Regulations Title 25

Federally recognized Native American tribes are considered domestic dependent nations. Tribal sovereignty refers to tribes' right to govern themselves, define their own membership, manage tribal property, and regulate tribal business and domestic relations; it further recognizes the existence of a government-to-government relationship between such tribes and the federal government. In general, state and local governments do not have "civil regulatory" jurisdiction (i.e., land use) on Indian Land, which is land held in trust or restricted status for a tribe.

Federal Highway Administration (FHWA) National Scenic Byways Program

The FHWA National Scenic Byways Program, which was established in Title 23, Section 162 of the United States Code under the Intermodal Transportation Efficiency Act of 1991, is a grassroots collaborative effort that designates selected highways as "All American Road" (a roadway that is a destination unto itself), America's Byways or "National Scenic Byway" (a roadway that possesses outstanding qualities that exemplify regional characteristics).

United States Bureau of Land Management (BLM) Scenic Areas and Back Country Byways

The BLM designates some of its holdings as Scenic Areas and some roadways in remote areas as Back Country Byways. The BLM Back Country Byways Program was established in 1989 and is a component of the National Scenic Byways Program. The counties of San Bernardino, Riverside, and Imperial in the SCAG region include land with such BLM designations.

United States Forest Service (USFS) National Scenic Byways Program

The USFS also has a National Scenic Byways Program, independent from the BLM program, which was established in 1995 under the Intermodal Transportation Efficiency Act of 1991 to indicate roadways of scenic importance that pass through national forests. The SCAG region includes Forest Service Scenic Byways in the counties of San Bernardino, Ventura, Los Angeles, and Riverside.

3.11.2.2 State

California Coastal Act of 1976

The California Coastal Act constitutes the California Coastal Management Program for the purposes of the Federal Coastal Zone Management Act (California Coastal Act of 1976, Public Resources Code [PRC] §30000 et seq.). The act established the California Coastal Commission (CCC), identified a designated California Coastal Zone, and established the CCC's responsibility to include the preparation and ongoing

oversight of a Coastal Plan for the protection and management of the Coastal Zone. Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop, and comply with, a coastal management plan. The Coastal Act requires that any person or public agency proposing development within the Coastal Zone obtain a Coastal Development Permit (CDP) from either the CCC or the city or county having the jurisdictional authority to issue a CDP. New school construction in portions of the Central and South Los Angeles Unified School District (LAUSD) areas could require a CDP. Any construction within the Coastal Zone must conform to the requirements of the California Coastal Act generally, and Chapter 3, Section 6 (Development) specifically. On or near the shoreline, coastal-dependent developments have priority over those uses not dependent on a coastal location (PRC §30255). To comply with the Coastal Zone Management Act, localities develop Local Coastal Plans (LCPs).

Natural Community Conservation Planning Act of 1991, as Amended

The Natural Community Conservation Planning Act of 1991, as amended in 2003 (California Fish and Game Code Section 2800-2835) established the Natural Community Conservation Planning program for the protection and perpetuation of the state's biological diversity. The CDFW established the program in order to conserve natural communities at the ecosystem level while accommodating compatible land use. An NCCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFW provides support, direction, and guidance to participants in order to ensure that NCCPs are consistent with the state ESA.

Modernization of Transportation Analysis for Transit- Oriented Infill Projects Senate Bill 743 (SB 743)

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743. To further the state's commitment to the goals of SB 375 and AB 32, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit- Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code. Key provisions of SB 743 include reforming aesthetics and parking CEQA analyses for urban infill projects and eliminating the measurement of auto delay, including Level of Service (LOS), as a metric that can be used for measuring traffic impacts in transit priority areas. SB 743 provides that, "aesthetics and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment." This means that, effective January 1, 2014, aesthetics and parking will no longer be considered in determining if a project has the potential to result in significant environmental effects provided a project meets all of the following three criteria:

- a) The project is in a transit priority area;
- b) The project is on an infill site; and
- c) The project is residential, mixed-use residential, or an employment center.

CEQA Streamlining for Infill Projects Senate Bill 226 (SB 226)

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated *CEQA Guidelines* Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and, (3) are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions.

Under SB 226, some development and transportation projects assumed as a part of the proposed Plan may be eligible to use a streamlined version of the environmental review process.

Housing Element Law

Enacted in 1969, Housing element law (Government Code Section 65580-65589.8) mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, housing policy in the State rests largely upon the effective implementation of local general plans and, in particular, local housing elements. Housing element law also requires HCD to review local housing elements for compliance with State law and to report its written findings to the local government.

Regional Housing Needs Assessment

The California Legislature developed the RHNA process (Govt. Code § 65580 *et seq.*) in 1977 to address the serious affordable housing shortage in California. The California Department of Housing and

Community Development (HCD) in consultation with each council of governments determines each region's existing and projected housing need.³⁵ HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the region's housing need.³⁶ HCD's determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.³⁷

In consultation with HCD, each council of governments must develop and adopt a methodology for distributing the existing and projected regional housing need to cities, counties, and cities and counties within the region.³⁸ The council of government then adopts a final regional housing need plan that allocates a share of the regional housing need to each city, county, or city and county.³⁹

Local government must address their allocated share of housing needs of all economic segments of the community through their housing elements.⁴⁰ Local governments must adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan, to encourage closer coordination between housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a five-year schedule to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.⁴¹

The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the housing element defines the related policies and programs that the community

³⁵ Govt. Code § 65584(b).

³⁶ Govt. Code § 65584.01(b).

³⁷ Govt. Code § 65584.01(a).

³⁸ Govt. Code § 65584.04.

³⁹ Govt. Code § 65584(b).

⁴⁰ California Legislative Information. *Article 10.6. Housing Elements [65580 – 65589.11]*.

⁴¹ California Legislative Information. *Senate Bill No. 375*.

will implement in order to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Plan.⁴²

In prior cycles, factors such as household growth and household income distribution were the primary factors considered in determining a jurisdiction's RHNA allocation. For the 6th RHNA cycle, SCAG plans to consider other factors in addition to household growth. These factors include transit accessibility, job accessibility, and indicators that influence a community's environmental, educational, and economic resource accessibility.

As discussed above in the discussion of SB 375, state law requires preparation of a RHNA allocation plan every eight years. SCAG's 6th Cycle RHNA quantifies the regional need for housing and then allocates the regional need to each jurisdiction for a planning period between October 2021 and October 2029. Local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units) by income categories through the process of updating the Housing Elements of their General Plans. The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment.⁴³

This region's 6th Cycle RHNA allocation plan consists of two measurements of housing need: (1) existing need and (2) future need for very-low income, low-income, moderate, and above-moderate income categories.

The existing need assessment is based on data from the most recent US Census to measure ways in which the housing market is not meeting the needs of current residents. These variables include the number of households paying more than 30 percent of their income for housing, as well as overcrowding.

The future need for housing is determined primarily by the forecasted growth in households in a community, based on historical growth patterns, job creation, household formation rates, and other factors to estimate how many households will be added to each community over the projection period. The housing need for new households is then adjusted to account for an ideal level of vacancy needed to promote housing choice, maintain price competition, and encourage acceptable levels of housing upkeep and repair. The RHNA also accounts for units expected to be lost due to demolition, natural disaster, or conversion to non-housing uses. The sum of these factors including household growth, vacancy need and replacement need form the "projected need" assigned to each community. Per SB 375, the projected

⁴² California Legislative Information. *Article 10.6. Housing Elements [65580-65589.11], Section 65580.*

⁴³ SCAG. *Regional Housing Needs Assessment (RHNA) & Housing.* Available online at: <https://www.scag.ca.gov/programs/Pages/Housing.aspx>, accessed August 29, 2019.

need's portion of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.

SCAG's RHNA allocation plan considers how each jurisdiction might grow in ways that will decrease the over-concentration of low-income households. The need for new housing is distributed among income groups so that each community moves closer to the county income distribution.

Consistent with the state housing law, the primary objectives the 6th Cycle RHNA allocation plan are:

1. Increase the housing supply and mix of housing types, tenure and affordability within each region in an equitable manner
2. Promote infill development and socioeconomic equity, the projection of environmental and agricultural resources, and the encouragement of efficient development patterns
3. Promote an improved interregional relationship between jobs and housing
4. Allocating a lower proportion of housing need in income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution
5. Affirmatively furthering fair housing

On October 15, 2019, SCAG received the Final Regional Determination from HCD. On November 7, 2019, SCAG Regional Council approved a Draft RHNA Allocation Methodology for HCD's review. The Regional Council is scheduled to approve the Final RHNA Methodology in March 2020 and release the Draft RHNA Allocation by jurisdiction prior to adopting Connect SoCal in April 2020.

Sustainable Communities and Climate Protection Act of 2008 (SB 375)

Senate Bill 375 focuses on aligning transportation, housing, and other land uses to achieve regional GHG emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill 32 (AB 32). SB 375 requires California Metropolitan Planning Organizations to develop an SCS as part of the Regional Transportation Plan (RTP), with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. The SCS must:

- identify the general location of land uses, residential densities, and building intensities within the region;
- identify areas within the region sufficient to house all the population of the region;

- identify areas within the region sufficient to house an eight-year projection of the regional housing need;
- identify a transportation network to service the regional transportation needs;
- gather and consider the best practically available scientific information regarding resources areas and farmland in the region;
- consider the state housing goals;
- set forth a forecasted development pattern for the region; and
- allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC § 7401 et seq.).

The development pattern in the SCS, when integrated with the transportation network and other transportation measures and policies, must reduce the GHG from automobiles and light duty trucks to achieve the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the GHG emission targets set by ARB, an Alternative Planning Strategy must be developed to demonstrate how the targets could be achieved. SB 375 also imposes a number of new requirements on the regional housing needs process. Before SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated.

SB 375 now synchronizes the schedules of the RHNA and regional transportation plan processes. The RHNA, which is developed after the regional transportation plan, must also allocate housing units within the region consistent with the development pattern included in the SCS. Previously, the RHNA determination was based on population projections produced by the Department of Finance. SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of three percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than three percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance.

Existing law requires local governments to adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the regional transportation plan to encourage closer coordination between the housing and transportation planning done by local governments and MPOs. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a 5-year schedule of to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.

Regional Conservation Investment Strategy Program

On September 22, 2016, the Governor signed Assembly Bill 2087 which created CDFW's Regional Conservation Investment Strategy pilot program, and was amended by Senate Bill 103 on July 21, 2017. The program uses a science-based approach to identify conservation and enhancement opportunities that, if implemented, will help California's declining and vulnerable species by protecting, creating, restoring, and reconnecting habitat and may contribute to species recovery and adaptation to climate change and resiliency. The Program consists of three components: regional conservation assessments (RCAs), regional conservation investment strategies (RCISs), and mitigation credit agreements (MCAs). An RCA is a voluntary, non-regulatory, non-binding conservation assessment that includes information and analyses of important species, ecosystems, protected areas, and habitat linkages at the USDA ecoregion scale and may include more than one ecoregion. An RCIS is a voluntary, non-regulatory, and non-binding conservation assessment that includes information and analyses relating to the conservation of focal species, their associated habitats, and the conservation status of the RCIS land base. An RCIS establishes biological goals and objectives at the species level and describes conservation actions and habitat enhancement actions that, if implemented, will contribute to those goals and objectives. An MCA is a mitigation credit agreement developed under an approved RCIS. An MCA is developed in collaboration with CDFW to create mitigation credits by implementing the conservation or habitat enhancement actions identified in an RCIS.⁴⁴

⁴⁴ California Department of Fish and Wildlife. *Regional Conservation Investment Strategies Program*. Available at: <https://www.wildlife.ca.gov/Conservation/Planning/Regional-Conservation>, accessed October 23, 2019.

Enhanced Infrastructure Financing Districts

Enacted on September 29, 2014, the new state law, Enhanced Infrastructure Financing Districts (SB 628; Chapter 2.99 [commencing with Section 53398.50] to Part 1 of Division 2 of Title 5 of the Government Code) allows the legislative body of a city or a county, defined to include a city and county, to establish an infrastructure financing district, adopt an infrastructure financing plan, and issue bonds to finance public facilities upon approval by two-thirds of a jurisdiction's voters. Additionally, a city or county is authorized to issue bonds upon approval by 55 percent of the voters, for which only the district is liable; to finance public capital facilities or other specified projects of communitywide significance, including, but not limited to, brownfield restoration and other environmental mitigation; the development of projects on a former military base; the repayment of the transfer of funds to a military base reuse authority; the acquisition, construction, or rehabilitation of housing for persons of low and moderate income for rent or purchase; the acquisition, construction, or repair of industrial structures for private use; transit priority projects; and projects to implement a sustainable communities strategy. The bill would also authorize an enhanced infrastructure financing district to utilize any powers under the Polanco Redevelopment Act.

3.11.2.3 Local

General Plans and Land Use Regulations

The legal framework in which California cities and counties exercise local planning and land use functions is provided in the California Planning and Zoning Law (California Code section 65000 et seq.) Under state planning law, each city and county is required to adopt a general plan "for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning" (California Code section 65300 et seq.).

The general plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. A general plan consists of a number of elements, including land use, circulation, housing, conservation, open space, noise, and safety; other elements may be included at the discretion of the jurisdiction that relate to the physical development of the county or city. The general plan must be comprehensive and internally consistent. Of particular importance is the consistency between the circulation and land use elements; the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities must be consistent with the general distribution and intensity of land used for housing, business, industry, open space, education, public areas, waste disposal facilities, agriculture, and other public and private uses.

In addition, every local jurisdiction within the region has land use regulations that implement the general plan. The zoning ordinance is the primary land use regulation used to implement the goals and policies of its general plan. Zoning ordinances, which are required to be consistent with the general plan, provide detailed direction related to development standards; permitted, conditionally permitted, and prohibited uses; and other regulations such as parking standards and sign regulations.

Local jurisdictions may also adopt specific plans, which are used to implement the general plan in particular geographic areas (California Code section 65450). Zoning ordinances and land use approvals must be consistent with applicable specific plans as well as the general plan.

Cities and counties are also required to comply with the Subdivision Map Act (California Code section 66410 et seq.). The Subdivision Map Act sets forth the conditions for approval of a subdivision map and requires enactment of subdivision ordinances by which local governments have direct control over the types of subdivision projects to be approved and the physical improvements to be installed.

Community Plans, Specific Plans, and Master Plans

A city or county may also provide land use planning by developing community or specific plans for smaller, more specific areas within their jurisdiction. These more localized plans provide for focused guidance for developing a specific area, with development standards tailored to the area, as well as systematic implementation of the general plan. Counties, cities, and private developers may also choose to partner in the development of a master plan that shows an overall development concept that includes urban design, landscaping, infrastructure, service provision, circulation, present and future land use and built form. It consists of three dimensional images, texts, diagrams, statistics, reports, maps and aerial photos that describe how a specific location will be developed. It provides a structured approach and creates a clear framework for developing an area.

Zoning

City and county zoning codes are the set of detailed requirements that implement the general plan policies at the level of the individual parcel. The zoning code presents standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.

3.11.3 ENVIRONMENTAL IMPACTS

3.11.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts to land use, if the Plan would result in either of the following:

- Physically divide an established community.
- Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.11.3.2 Methodology

The Plan includes transportation projects as well as transportation and land use strategies aimed to increase mobility, promote sustainability, and improve the regional economy. Although land use development is anticipated to occur within the region even without the Plan, the Plan includes policies and strategies that could influence growth, including distribution patterns. To address this, the analysis in the PEIR covers overall impacts of transportation projects and land use strategies described in the Plan and evaluates how conditions in 2045 under the Plan would differ from existing conditions. **Section 2.0, Project Description**, describes the Plan's vision, goals, guiding policies, performance measures, and land use and transportation strategies. A geographic information system (GIS) was used to analyze where major transportation (e.g., freeway, rail, and transit) projects would intersect areas used for residential development and business uses. A 500-foot potential impact zone was drawn around the freeway, rail, and transit projects in Connect SoCal to compute the number of acres that could potentially be affected by the construction and operation of transportation projects included in the Plan. **Table 3.11-6** shows the current land uses that are located within 500 feet of either side of Plan transportation projects.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.11.3.3 Impacts and Mitigation Measures

Impact LU-1 Potential for the Plan to physically divide an established community

Significant and Unavoidable Impact - Mitigation Required.

Physical division of an established community could occur as a result of real or perceived barriers to pedestrians, bicyclists, and motorists. Short-term construction related impacts could result from disturbances due to construction equipment; these impacts are discussed under other impact categories (e.g., Noise, Aesthetics, and Air Quality). Long-term impacts could result from the completion of new or expanded roadways or transit facilities in existing communities. Also, if freeway routes, particularly those that occur in rural areas, are widened, they can create a real or perceived barrier to pedestrians, bicyclists, and motorists. Freeway segments that would occur in rural areas, such as projects adding express lanes along I-15 in San Bernardino County connecting I-215 to US-395, also have the potential to create physical barriers. Such additions of new roadways or expansion of existing roadways may be perceived as a great distance to cross by a pedestrian (whereas it may not have been perceived as an issue previously), thereby dividing a community. Urban transportation projects, and the Plan's emphasis on expanded transit could expand urban uses into undeveloped areas and has the potential to physically divide established communities. For example, an elevated grade crossing may create a physical barrier in some locations.

The transportation strategies in the Plan, such as emphasis on complete streets and TDM strategies would have less of an ability to divide established communities because they are generally expected to occur in established communities. Further, many of these strategies (i.e., bike lanes, pedestrian access) improve connectivity.

Implementation of the Plan would affect land use patterns and the consumption of currently vacant and open space lands. As described above, the Plan would result in the conversion of 41,546 greenfield acres including 6,732 acres of agricultural land to urban uses. As land gets converted from urban or agricultural uses, there is the potential for infrastructure or land developments to divide existing communities. Anticipated significant impacts include substantial density increases in areas of the region adjacent to transit, or other rights-of-way that could separate residences from community facilities and services, and conversion of vacant lands, including agricultural lands, to transportation infrastructure and residential and commercial development.

A GIS analysis was performed to determine where major transportation projects in the Connect SoCal Plan intersected with different land uses to evaluate the potential for conflicts. For purposes of identifying potential land use conflicts, a 500-foot buffer was used around the Plan's major transportation

projects to identify the number of acres potentially affected. Highway and transit extensions and major interchange projects are assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods. The analysis is based on general descriptions of transportation projects listed in the Plan and is regional and programmatic in nature. As shown in **Table 3.11-6, Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)**, approximately 10,254 acres of land zoned for residential use (including multifamily and single family) could be affected by projects in the Plan. However, most projects in the Plan are modifications or expansions (e.g., HOV, widening) of existing facilities and would have less potential to divide an existing community than new projects.

**Table 3.11-6
Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)**

Land Use	County						Total
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Commercial and services	64	1,369	635	821	874	532	4,295
General office	6	468	269	284	359	130	1,516
Industrial	3	2,203	208	719	570	193	3,894
Mixed commercial and industrial	-	8	0.7	131	30	7	179
Mixed residential	-	110	-	5	34	11	160
Mixed residential and commercial	-	237	78	59	75	133	581
Mobile homes and trailer parks	13	157	62	199	71	53	555
Multi-family residential	3	697	391	389	222	121	1,823
Rural residential	-	208	-	301	192	0.5	702
Single-family residential	35	3,258	1,018	983	880	260	6,434
Total	123	8,716	2,662	3,891	3,307	1,441	20,138

Source: SCAG, 2019

Nonetheless, because the Plan would result in the location of transportation infrastructure in residential areas, it is possible division of communities would occur. As such, impacts are considered significant.

Mitigation Measures

SCAG Mitigation Measures

SMM LU-1: SCAG shall coordinate with local County Transportation Commissions, Caltrans and other implementing agencies when siting new facilities in residential areas to facilitate minimizing future impacts of transportation projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts to promote best planning practices.

Project Level Mitigation Measures

PMM LU-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Facilitate good design for land use projects that build upon and improve existing circulation patterns
- b) Encourage implementing agencies to orient transportation projects to minimize impacts on existing communities by:
 - Selecting alignments within or adjacent to existing public rights of way.
 - Design sections above or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project.
 - Wherever feasible incorporate direct crossings, overcrossings, or under crossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles).
- c) Where it has been determined that it is infeasible to avoid creating a barrier in an established community, consider other measures to reduce impacts, including but not limited to:
 - Alignment shifts to minimize the area affected.
 - Reduction of the proposed right-of-way take to minimize the overall area of impact.
 - Provisions for bicycle, pedestrian, and vehicle access across improved roadways.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts that physically divide a communities could be significant and unavoidable even with implementation of mitigation.

Impact LU-2 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

Significant and Unavoidable Impact - Mitigation Required.

As part of the Plan, SCAG has developed a population, housing and employment growth forecast, land use and transportation strategies and forecasted land use patterns. The Plan seeks to integrate the forecasted land use patterns with the transportation network, in response to projected growth and housing needs, changing demographics, and transportation demands. Transportation strategies included in the Plan emphasize system preservation, active transportation, transportation safety, electrification, and transportation demand management measures. Land use strategies included in the Plan aim to focus most of the new housing and job growth in high-quality transit areas (HQTAs), with 60 percent of new homes and 73 percent of new jobs being located in these Priority Growth Areas (PGAs) which include existing main streets, downtowns, and commercial corridors. Land use strategies also seek to focus growth in other PGAs such as job centers and neighborhood mobility areas (NMAs) to maximize existing infrastructure and encourage infill development (**Figure 3.11-5, SCAG Region Proposed Job Centers**).

The development patterns encouraged by the Connect SoCal Plan, where implemented by local jurisdictions, would influence the distribution of growth in existing urbanized areas or suburban town centers and opportunity areas such as in HQTAs, including livable corridors and neighborhood mobility areas. As described in **Chapter 2.0, Project Description**, by 2045, the SCAG region is anticipated to add 3.2 million people with or without the Plan. To accommodate the growth, the Plan includes transportation and land use strategies that encourage higher densities in areas with infill potential and existing infrastructure (e.g., HQTAs, NMAs); emphasizes an increase in transportation mode choice such

as transit, walking and biking; promote diverse housing choices; support implementation of sustainability policies, promote a green region, and other benefits. In particular, the policies and strategies in the Plan support the development of local climate adaptation and hazard mitigation plans as well as project implementation that improves community resiliency to climate change and natural hazards; supports local policies for renewable energy production, reduction of urban heat islands and carbon sequestration; encourages the integration of local food production into the regional landscape; promotes more resource efficient development focused on conservation, recycling and reclamation; preserve, enhance and restore wildlife connectivity; reduce the consumption of resource areas, including agricultural lands; and identify ways to improve access to public park space.

In other areas, land use policies and strategies in the Plan would encourage development of underutilized areas (infill, etc.). As stated previously, development patterns, would be supported by transportation investments that emphasize system preservation and enhancement, active transportation, and land use integration, and are generally consistent with local land use plans, goals, and policies calling for higher density, compact, mixed-use development that may be served by high-quality transit, bicycle and pedestrian improvements. The Plan's transportation strategies would have less ability to result in conflicts with general plans as they are generally expected to be implemented in established communities where such strategies are often included at the local level.

The Plan contains strategies to guide anticipated population, households, and employment growth in the region by 2045. The land use strategies were developed as a result of SCAG's bottom-up planning process outlined in the Plan. This process involved extensive outreach to and input from local jurisdictions, including counties, subregions, and local city planners.

While the Plan was developed primarily from assumptions derived from local general plans and input from local governments and transportation agencies, SB 375 does not require local land use policies, regulations or general plans to be consistent with the Plan. Also, although the transportation projects and land use strategies included in the Plan are generally compatible with county- and regional-level general plans, local general plans may have not have been updated since SCAG's last adopted 2016 RTP/SCS. As such, it is likely that there could be incompatibilities with existing general plans in the region.

SCAG has no authority to adopt, approve, implement, or otherwise regulate local land use plans or projects that are listed in the Connect SoCal Plan. SB 375 specifically provides that a regional transportation plan does not supersede the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with the Plan. Rather, SB 375 requires the projections of a regional land use pattern integrated with the transportation network and the provision of strategies and recommended policies to reduce per

capita GHG emissions from automobiles and light trucks. Local governments reserve their land use authority and may incorporate, as appropriate, the recommended land use strategies, guiding principles, and policies include in the Plan.

In addition, it is possible that many general plans do not include similar regional policies as they are focused on land uses within the local jurisdiction. For example, while the Plan includes strategies for compact development and higher densities as a means to accommodate increased population in an efficient manner, many jurisdictions are planning for smaller individual numbers and may assume smaller densities. The growth pattern in the Plan assumes 21 percent of new housing would be urban infill and 63 percent would be compact (walkable). It is possible that local general plans have not been updated to reflect the land use assumptions within the Plan, despite SCAG's outreach and bottom up planning process for the reasons stated above. As a result, there exists the potential for a local general plan to conflict with SCAG's projected land use pattern. While this conflict would not result in a direct physical impact, physical impacts could occur indirectly as other pressures for increased densities grow in the region. As density increases, consistent with SCAG's land use policies and strategies, these policies and strategies could facilitate higher density in areas not currently planned for such densities (at the local level). As such, there is the potential for inconsistencies between SCAG's land use strategies and local planning documents that could potentially lead to physical environmental impacts.

Implementation of the Plan would also have a potential to result in conflicts with the provisions of applicable adopted HCPs, NCCPs as well as other open space/parklands. The Plan's land use strategies seek to reduce conflicts with applicable HCPs, NCCPs and open spaces by focusing new growth in existing urban areas and urban opportunity areas to help preserve natural habitat areas. In addition, parklands are usually zoned as open space and SCAG does not allocate growth to lands designated for open space/parks. However, because some planned major transportation projects could occur in or adjacent to lands protected under these plans, there is the potential for a significant impact (See **Section 3.4, Biological Resources**, for further analysis of the Plan's potential to conflict with provisions of an adopted HCP or NCCPP).

As previously discussed, there are areas subject to general plans that would be impacted by transportation projects. In addition, since the Plan's planning horizon year is beyond the timeline of many of the most recent general plans, implementation of the Plan's transportation projects and land use strategies could potentially result in changes in the land use patterns in the region. Therefore, there is potential for inconsistencies with general plans as well as regional conservation plans, constituting potentially significant effects requiring the consideration of mitigation measures.

*Mitigation Measures*SCAG Mitigation Measures

- SMM LU-2:** SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall provide comment letters on regionally significant projects to recommend additional resources to help the lead agency support or develop a projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: <https://maps.scag.ca.gov/IGR/>. For more information on SCAG's IGR Program, please visit: <http://www.scag.ca.gov/programs/Pages/IGR.aspx>.
- SMM LU-3:** SCAG shall encourage cities and counties in the region to provide SCAG with electronic versions of their most recent general plan (and associated environmental document) and any updates as they are produced.
- SMM LU-4:** SCAG shall continue to provide targeted technical services such as GIS and data support for cities and counties to update their general plans at least every ten years, as recommended by the Governor's Office of Planning and Research.
- SMM LU-5:** SCAG shall provide technical assistance and regional leadership to encourage implementation of the Plan goals and strategies that integrate growth and land use planning with the existing and planned transportation network.

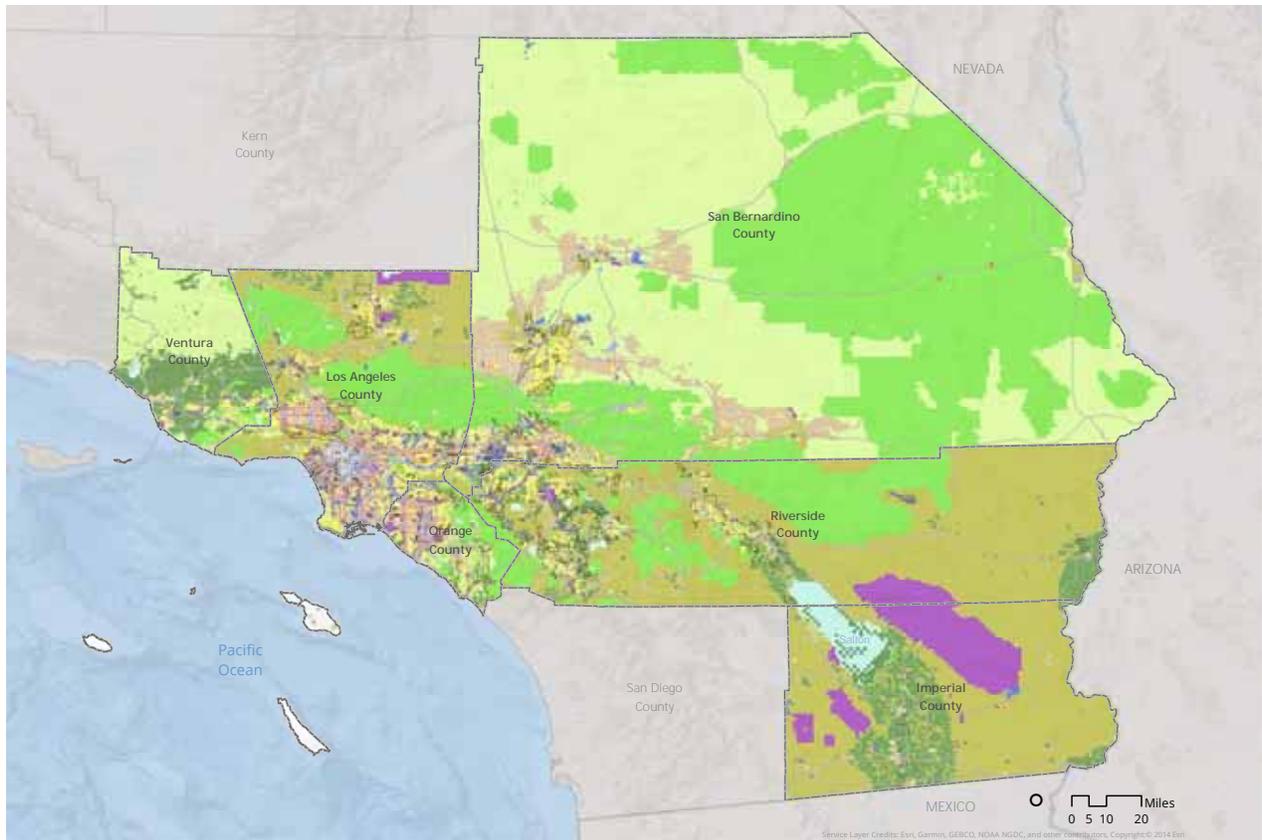
Project Level Mitigation Measures

- PMM LU-2:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:
- a) When an inconsistency with the adopted general plan policy or land use regulation (adopted for the purpose of avoiding or mitigating an impact) is identified modify the transportation or land use project to eliminate the conflict;

or, determine if the environmental, social, economic, and engineering benefits of the project warrant an amendment to the general plan or land use regulation.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to potential lack of consistency with land use plans, policies and regulations and potential to result in environmental impact could be significant and unavoidable even with implementation of mitigation.

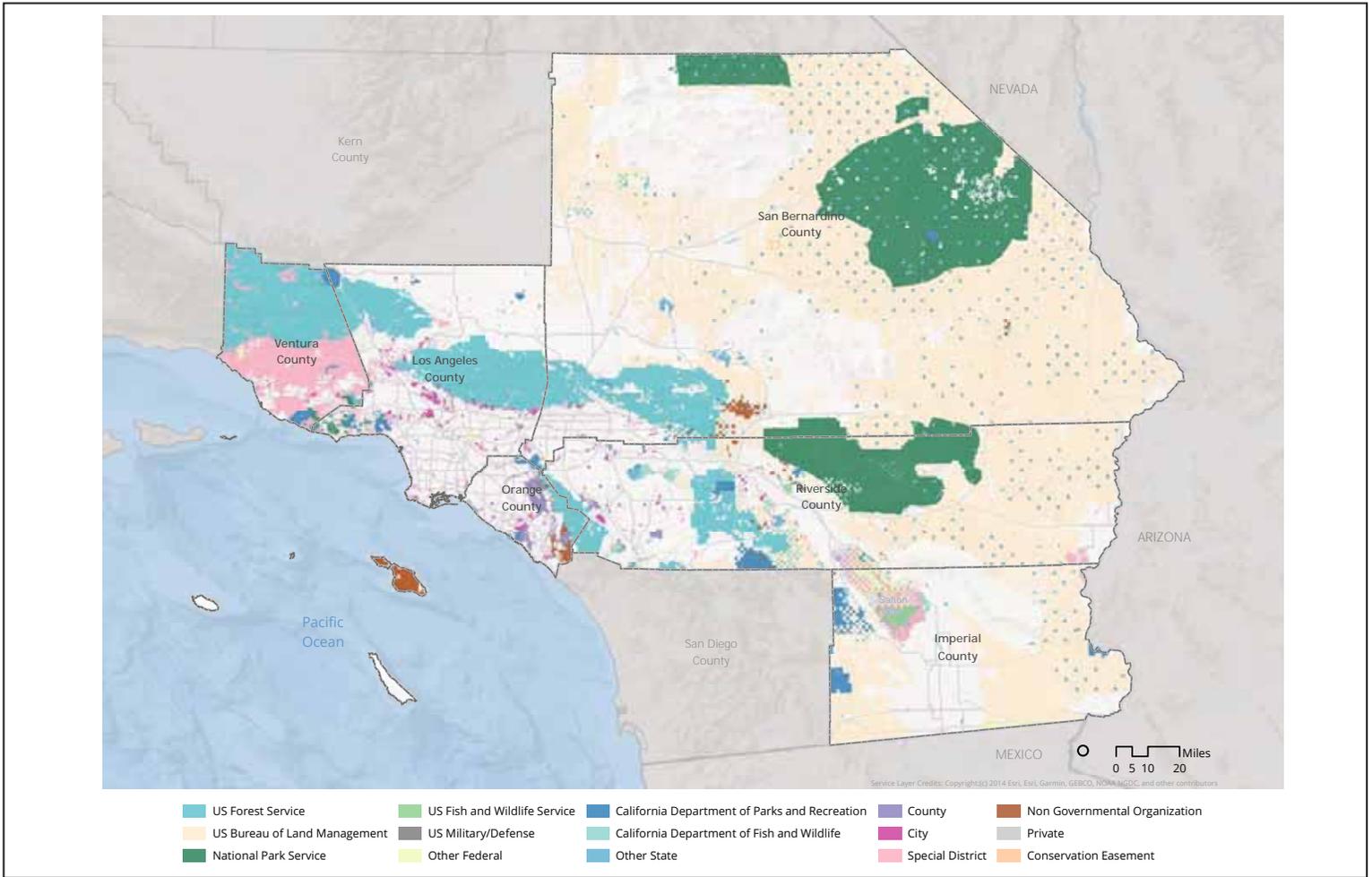


- | | | | | | |
|---------------|--------------------------------|-------------------------|---|--------------------|---------------|
| Specific Plan | Single-Family Residential | General Office | Industrial | Agriculture | Undevelopable |
| TPA (2016) | Multi-Family Residential | Commercial and Services | Transportation, Communications, and Utilities | Vacant | Unknown |
| HQTA (2016) | Mobile Homes and Trailer Parks | Facilities | Mixed Commercial and Industrial | Water | |
| | Mixed Residential | Education | Mixed Residential and Commercial | Specific Plan | |
| | Rural Residential | Military Installations | Open Space and Recreation | Under Construction | |

SOURCE: SCAG, ESRI Shaded Relief, Tele Atlas, 2012

FIGURE 3.11-2

Existing Land Use

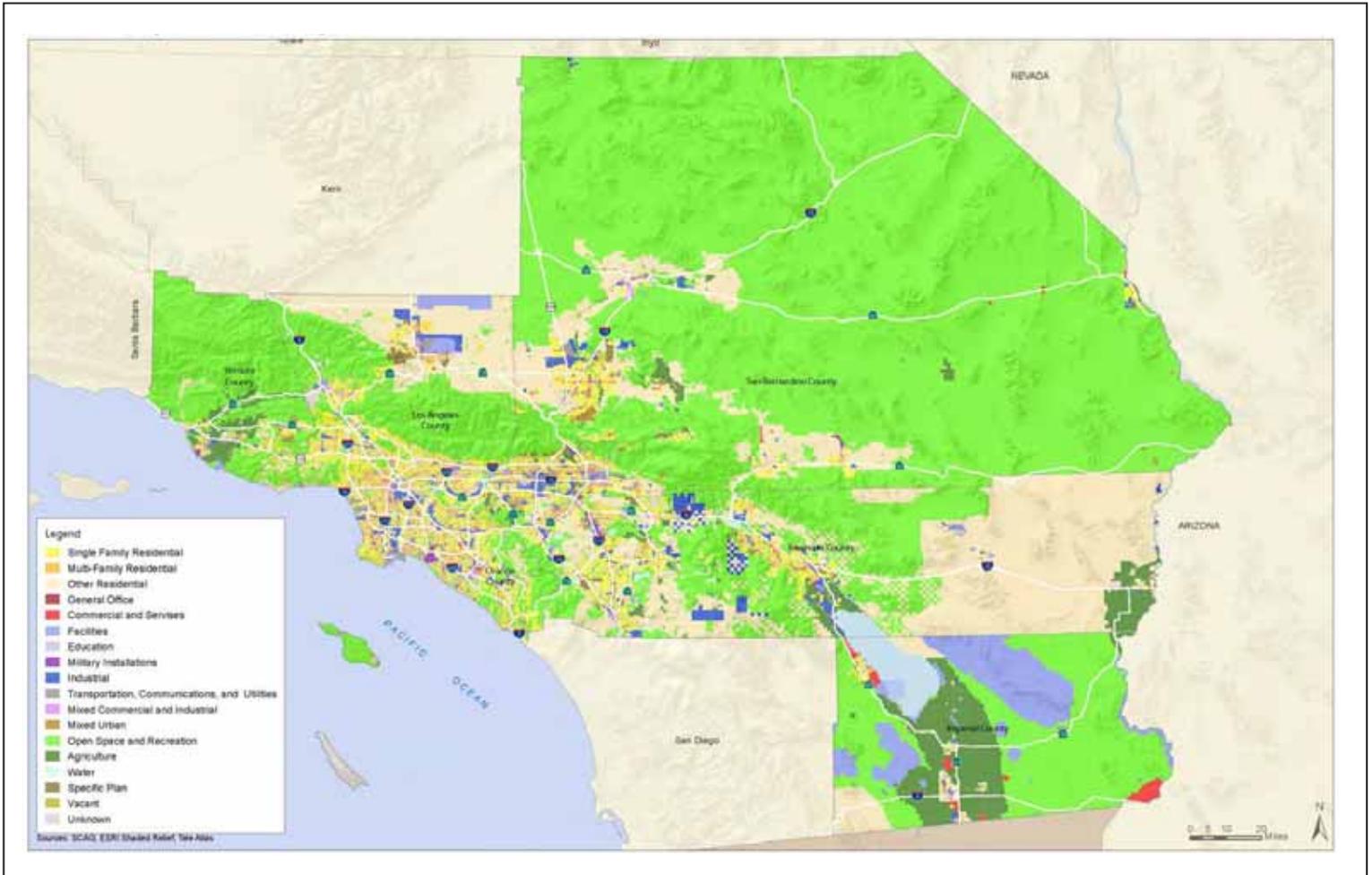


SOURCE: SCAG, California Protected Areas Database, 2017; California Conservation Easement Database, 2016

FIGURE 3.11-3

Protected Areas in the SCAG Region

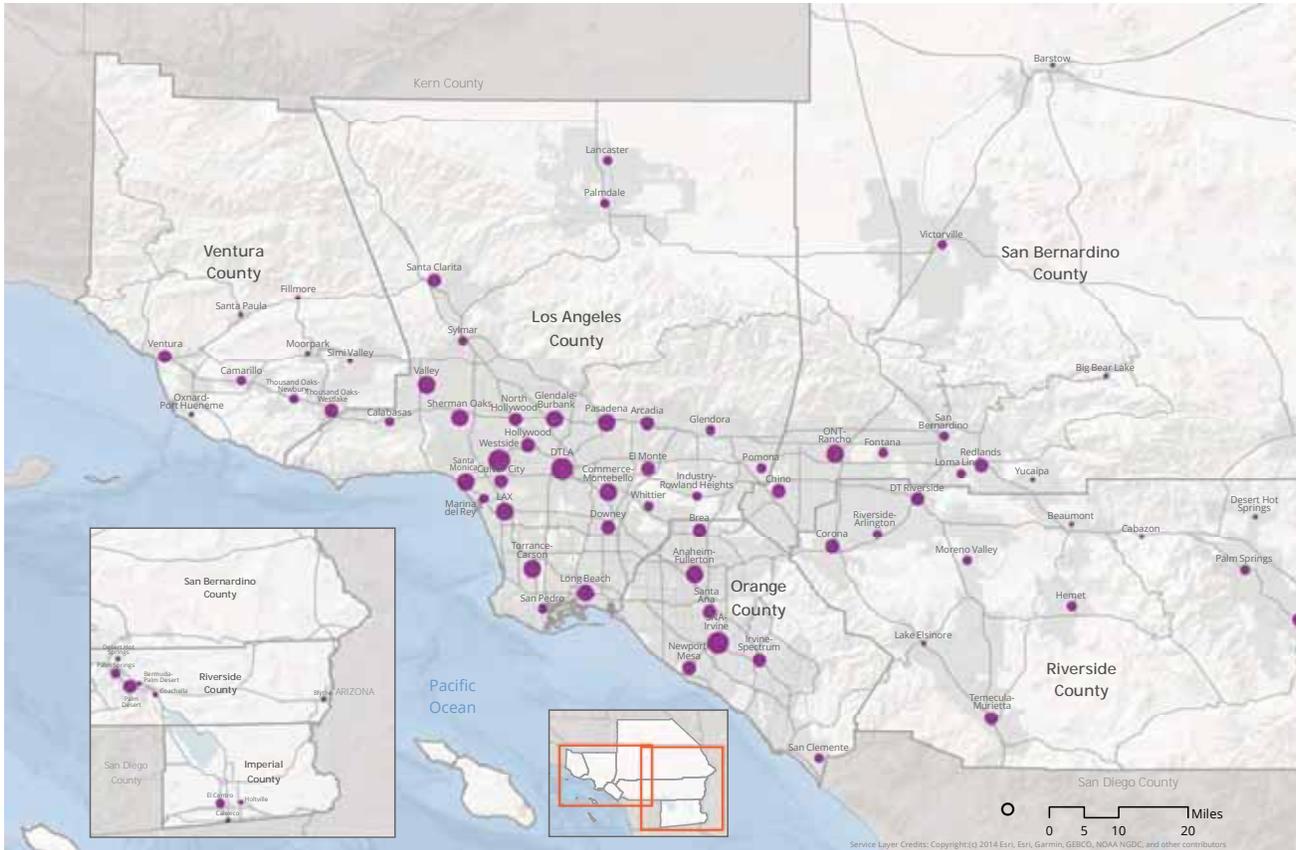




SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, 2012

FIGURE 3.11-4

General Plan Land Use Designations



SCAG Region Proposed 2020 RTP/SCS Job Centers (Total Employment)

- Less than 10,001 (17)
- 10,001 - 25,000 (22)
- 25,001 - 50,000 (19)
- 50,001 - 150,000 (11)
- More than 150,000 (3)

Notes:

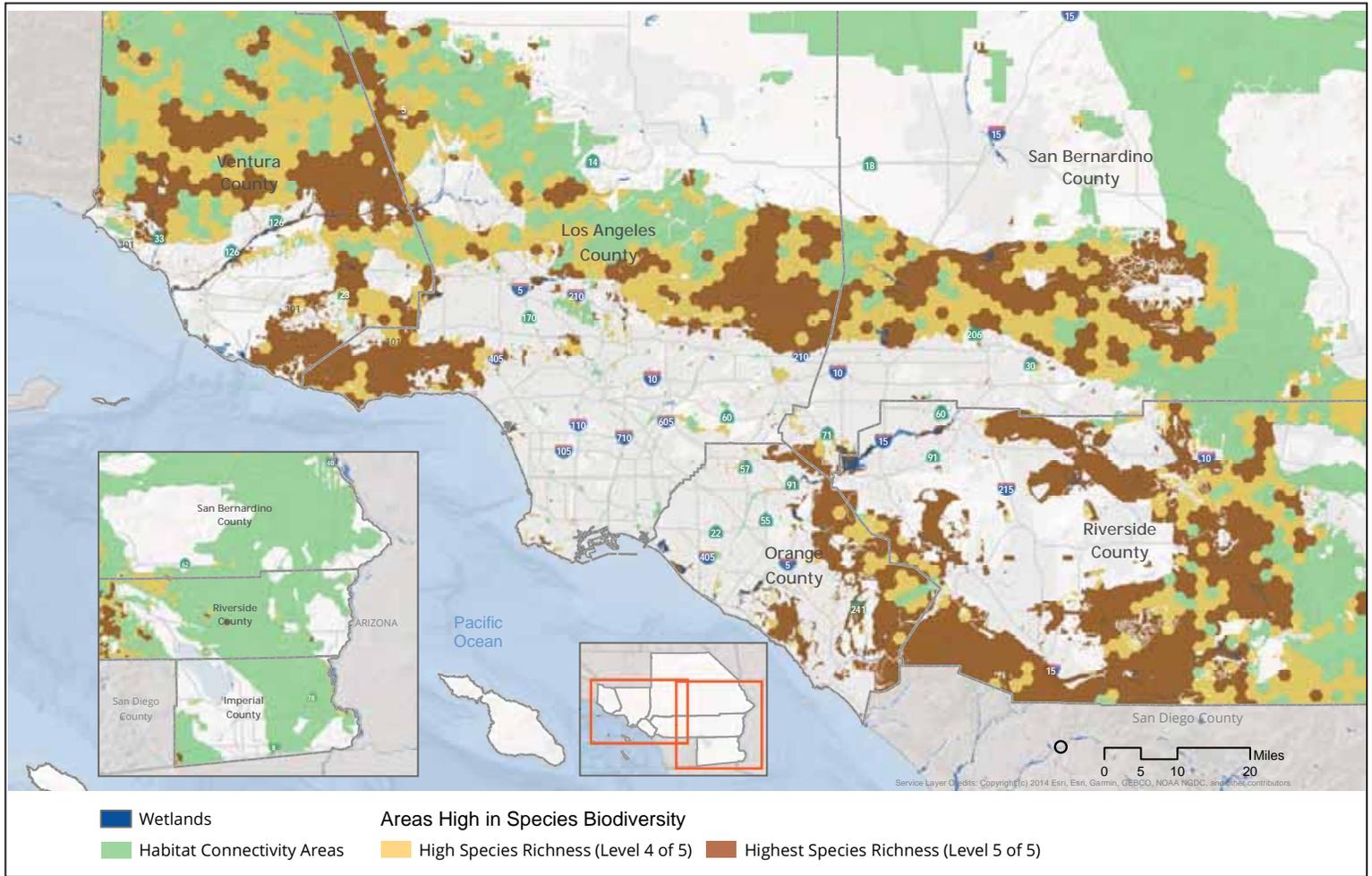
- (1) Centers are areas with denser employment than their surroundings.
- (2) Dots represent the total employment in each center, not center boundaries.
- (3) Names are intended to be illustrative and may not reflect all the jurisdictions in which a center fully lies.

SOURCE: SCAG, 2019

FIGURE 3.11-5

SCAG Region Proposed Job Centers



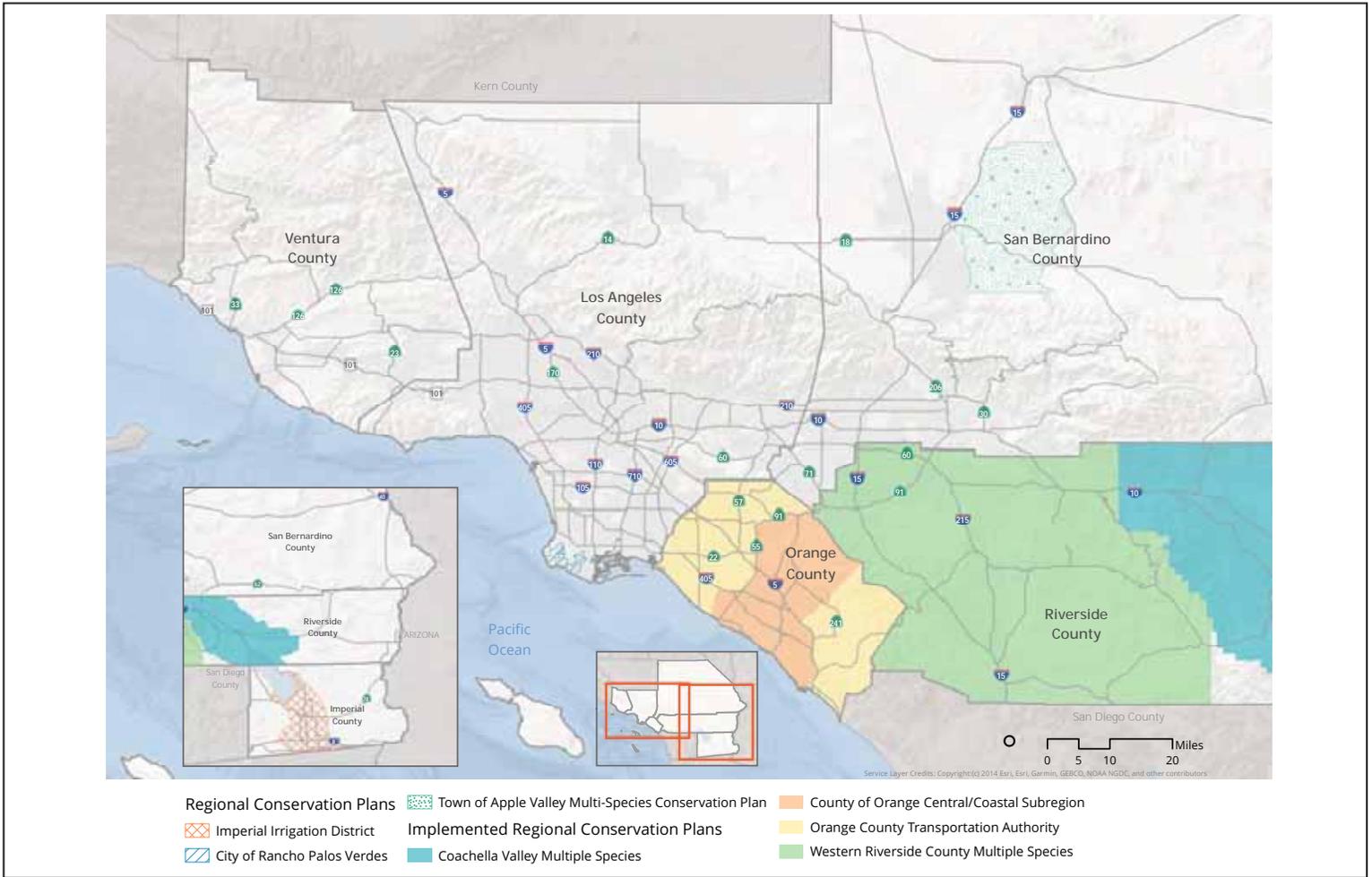


SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, 2015

FIGURE 3.11-6

SCAG Region Open Space, Recreation, and Agricultural Uses





SOURCE: California Department of Fish and Wildlife, 2019

FIGURE 3.11-9

Regional Conservation Plans in the SCAG Region

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3.12 MINERAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes mineral resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect mineral resources, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”) In addition, this PEIR provides regional-scale mitigation measures, as well as project-level mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies to reduce identified impacts as appropriate and feasible.

3.12.1 ENVIRONMENTAL SETTING

A mineral resource is a pure inorganic substance occurring in Earth’s crust in such form, quantity or quality that there are reasonable prospects for economic extraction. With over 1,200 mines in California, the state relies on mineral resources as a continuous supply of construction aggregate materials (sand, gravel, and crushed stone) for urban infrastructure and essential to the economy of Southern California. Construction minerals, such as aggregate, constitute the state’s most important mineral commodity in terms of tonnage, value, and societal infrastructure. California is number one in the United States (U.S.) for the production of sand and gravel, and fourth in the U.S. for total non-fuel mineral production. As of 2017, there were 663 active non-fuel mines in the state with a total market value of production valuing \$3.6 billion.¹

Mineral Resource Zones (MRZs) were initially mapped in 1980 as a result of the Surface Mining and Reclamation Act (SMARA) of 1975. MRZs are designated into four classes that indicate the potential for a specific area to contain significant mineral resources:

- **MRZ-1:** Areas where available geological information indicated there is little or no likelihood for presence of significant mineral resources.
- **MRZ-2:** Areas underlain by mineral deposits where geological data indicate that significant measured or indicated resources are present or where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- **MRZ-3:** Areas containing known mineral occurrences of undetermined mineral resources significance.

¹ California Department of Conservation (DOC). 2017. California’s Non-Fuel Mineral Production in 2017. Available online at: <https://www.conservation.ca.gov/cgs/Documents/california-non-fuel-mineral-production-2017.pdf>, accessed June 12, 2019.

- **MRZ-4:** Areas of known mineral occurrences where geological information does not rule out the presence or absence of significant mineral resources.²

3.12.1.1 Mineral Resources Project

To organize active and historic mining data as mandated by the Surface Mining and Reclamation Act of 1975 (SMARA), the California Department of Conservation created the Mineral Resources Project, to provide information about California's non-fuel mineral resources. Under the project, the California Geological Survey (CGS) classifies lands that contain regionally significant mineral resources and then develops objective maps and reports to be used by mining companies and consultants, government agencies, and the public to recognize, utilize, and protect California's mineral resources.

The Mineral Resources Project divides non-fuel mineral resources into three categories: metals (include gold, silver, iron and copper), industrial minerals (like clays, limestone, and gypsum), and construction aggregate (sand, gravel, and crushed stone).³

3.12.2 ENVIRONMENTAL SETTING

3.12.2.1 Mineral Resources of Regional Significance

County and city general plans are required to identify significant mineral resource areas and apply appropriate land use designations to ensure their future availability. Many city and county general plans in the SCAG region reference and map local mineral resources. Most of the comprehensive mineral resource mapping in California has been completed for urban areas where there is a high probability that converted land uses would be incompatible with mining. Gold, sand, and gravel are the primary mineral resources still extracted throughout the SCAG region. As shown in **Figure 3.12-1, Mineral Resources in the SCAG Region**, other mineral resources in the SCAG region consist of bentonite, boron, cement, common clay, crushed stone, dimension stone, feldspar, gemstones, gypsum, lime, perlite, salt, silver, soda ash, sodium sulfate, sulfur, talc, and zeolites.

² California Department of Conservation (DOC). *Guidelines for Classification and Designation of Mineral Lands*. Available online at: <https://www.conservation.ca.gov/smg/Docs/Guidelines/Documents/ClassDesig.pdf>, accessed August 19, 2019.

³ California Department of Conservation (DOC). 2017. *California's Non-Fuel Mineral Production in 2017*. Available online at: <https://www.conservation.ca.gov/cgs/Documents/california-non-fuel-mineral-production-2017.pdf>, accessed June 12, 2019.

Imperial County

A number of mineral resources in Imperial County are currently being extracted. These mineral resources include gold, gypsum, sand, gravel, lime, clay, stone, kyanite, limestone, sericite, mica, tuff, salt, potash, and manganese. Several issues influence the extraction of mineral deposits in Imperial County, including the location of geologic deposition, the potential for impacts to the environment, and land use conflicts. As a result, the extraction of mineral resources is limited to a relatively small number of sites throughout the County.⁴

Los Angeles County

In Los Angeles County, four major MRZ-2s are identified in, or partially within the unincorporated areas; Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area. The Soledad and Little Rock Creek MRZ-2s contain significant commercially-viable aggregate or mineral deposits, such as sand, gravel, and other construction aggregate that are estimated to contain mineral resources through the year 2046.^{5,6}

Orange County

In 1994, the California Department of Conservation, Division of Mines and Geology, published an updated report identifying significant sand and gravel resources for the Orange County region. These resource areas are located in portions of the Santa Ana River, Santiago Creek, San Juan Creek, Arroyo Trabuco and other areas.⁷

Riverside County

Mineral extraction is an important component of Riverside County's economy. The County of Riverside has extensive deposits of clay, limestone, iron, sand, and aggregates. Mineral deposits in the county are important to many industries, including construction, transportation and chemical processing. The value

⁴ Imperial County. *Imperial County General Plan: Conservation & Open Space Element*. Available online at: <http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf>, accessed June 24, 2019.

⁵ Little Rock Creek Fan, Soledad Production Area, Sun Valley Production Area, and Irwindale Production Area. The Soledad and Little Rock Creek MRZ-2s contain significant deposits that are estimated to provide for future needs through the year 2046.

⁶ Los Angeles County. 2015. Los Angeles County General Plan Chapter 9: Conservation and Natural Resources Element. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 10 2019.

⁷ Orange County Public Works. *General Plan Chapter VI: Resources Element*. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235>, accessed June 24, 2019.

of mineral deposits within the county is enhanced by their close proximity to urban areas. However, increasing urbanization also encroaches on the mineral resources within the county.⁸

San Bernardino County

The Desert Region Habitat, which covers approximately 93 percent of the San Bernardino County land area, contains mountain ranges which support exposed bedrock, mineral deposits in granite rock.⁹

Ventura County

The two principal mineral resources located in Ventura County are petroleum (oil and gas) and aggregate (principally sand and gravel). Other minerals of commercial value within Ventura County are: asphalt, clay, expansible shale, gypsum, limestone, and phosphate. Although many sand and gravel sites exist throughout the County, most of the extraction sites are located in and along the Santa Clara River bed.¹⁰

Construction Aggregate in the SCAG Region

Mapping information assists planners and decision-makers balance the need for construction aggregate with many other competing land use issues in their jurisdictions. It is estimated that in the next 50 years, California will need approximately 11 billion tons of aggregate, while current permits only allow for 7.6 billion tons, or 69 percent of the total need.¹¹

Table 3.12-1, Permitted Aggregate Resources and 50-Year Demand in the SCAG Region, shows the forecasted demand as well as the permitted aggregate reserves within the SCAG region. The Temescal Valley-Orange County area has the highest projected demand over the next 50 years, with an estimated 1,079 million tons demanded. In contrast, Ventura County has a future demand of approximately 241 million tons of aggregate. All of the aggregate study areas within the SCAG region have less permitted aggregate reserves than they are projected to need for the next 50 years. The projected total 50-year

⁸ Riverside County Planning Department. *General Plan: Multipurpose Open Space Element*. Available online at: [https://planning.rctlma.org/Portals/14/genplan/general Plan 2017/elements/OCT17/Ch05 MOSE 120815.pdf?ver=2017-10-11-102103-833](https://planning.rctlma.org/Portals/14/genplan/general%20Plan%202017/elements/OCT17/Ch05%20MOSE%20120815.pdf?ver=2017-10-11-102103-833), accessed June 24, 2019.

⁹ San Bernardino County, Land Use Services. *Countywide Plan: Conservation Element*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed June 24, 2019.

¹⁰ Ventura County Resource Management Agency. *Ventura County General Plan*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed June 24, 2019.

¹¹ California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Report_201807.pdf, accessed July 30, 2019.

demand for the SCAG region is 4.4 billion tons ¹² (It should be noted that although there are aggregate mines in Imperial County, the CGS does not provide permit and demand data for Imperial County).

**Table 3.12-1
Permitted Aggregate Resources and 50-Year Demand in the SCAG Region**

	County*	50-Year Demand (million tons)	Permitted Aggregate Reserves (million tons)	Permitted Aggregate Reserves Compared to 50-Year Demand (percent)	Projected Years Remaining
Claremont-Upland P-C Region	San Bernardino	202	90	45	21 to 30
Palmdale P-C Region	Los Angeles	569	163	29	11 to 20
Palm Springs P-C Region	Riverside	238	163	68	31 to 40
San Bernardino P-C Region	San Bernardino	939	156	17	11 to 20
San Fernando Valley/Saugus-Newhall	Los Angeles	387	17	4	10 or fewer
San Gabriel Valley P-C Region	Los Angeles	751	297	40	21 to 30
Temescal Valley-Orange County	Orange	1,079	862	80	41 to 50
Ventura County	Ventura	241	84	35	11 to 20
Total SCAG Region		4,406	1,832	N/A	N/A

Note: *Aggregate reserves not analyzed for Imperial County

Source: California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*.

Current non-permitted aggregate resources are the most likely future sources of construction aggregate potentially available to meet California's continuing demand. Non-permitted aggregate resources are deposits that may meet specifications for construction aggregate, are recoverable with existing technology, have no land overlying them that is incompatible with mining, and currently are not permitted for mining. These resource areas include areas that are known to contain aggregate resources and have compatible land uses such as agricultural land, open space lands (not designated as parks), and forest lands. Uses that are considered incompatible with mining include urban areas, county and state parks, national parks, and golf courses. It is unlikely that all of these resources would ever be mined as many are located in proximity to urban or environmentally sensitive areas or remote from a potential market to be economically viable. Land uses that are considered incompatible with mining include urban areas, county and state parks, national parks, and golf courses.

¹² Ibid.

The estimated amount of non-permitted resources in the region is not easily quantifiable; California's non-permitted aggregate resources have been estimated to be approximately 74 billion tons.¹³ While the estimated amount of nonpermitted resources is large, it is unlikely that all of these resources would ever be mined because of social, environmental, or economic factors. For example, aggregate resources located in proximity to urban or environmentally sensitive areas can limit or stop the development of mining operations, as such these sites are unlikely to be mined. These resources may also be located remote from a potential market to be economically viable, due to the cost of transporting such resources. In spite of such possible constraints, current nonpermitted aggregate resources are the most likely future sources of construction aggregate potentially available to meet California's continuing demand.

3.12.3 REGULATORY FRAMEWORK

3.12.3.1 Federal

Indian Mineral Development Act of 1982

The Indian Mineral Development Act of 1982 (25 U.S. Code [USC] 2101–2108) permits Indian tribes, through the Secretary of the Interior, to enter into a Minerals Agreement for the disposition of tribal mineral resources. A Minerals Agreement provides for the exploration for or extraction of oil, gas, uranium, coal, geothermal, or other energy or non-energy mineral resources for tribes that own a beneficial or restricted interest or provide for the sale or production of tribal mineral resources.¹⁴

3.12.3.2 State

Surface Mining and Reclamation Act (SMARA) of 1975

The SMARA (Public Resources Code [PRC] 2710–2796) requires that the State Department of Mines and Geology Board map areas throughout the state that contain regionally significant mineral resources. Construction aggregate resources (sand and gravel) deposits were the first commodity selected for classification by the Board. Once mapped, the Mines and Geology Board is required to designate for future use those areas that contain aggregate deposits that are of prime importance in meeting the region's future need for construction-quality aggregates. The primary objective of SMARA is for each jurisdiction to develop policies that would conserve important mineral resources, where feasible, that

¹³ California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Report_201807.pdf, accessed September 10, 2019.

¹⁴ U.S. Congress. S. 1894 – *Indian Mineral Development Act of 1982*. Available online at: <https://www.congress.gov/bill/97th-congress/senate-bill/1894>, accessed August 19, 2019.

might otherwise be unavailable when needed. SMARA requires that once policies are adopted, local agency land use decisions must be in accordance with its mineral resource management policies. These decisions must also balance the mineral value of the resource to the market region as a whole, not just their importance to the local jurisdiction.¹⁵

Government Code Section 65302(d)

Government Code Section 65302(d) states that a conservation element of the general plan shall address minerals and other natural resources.¹⁶

3.12.3.3 Local

County and City General Plans

For the most part, local planning guidelines have been developed in county and city general plans to identify and encourage the utilization and conservation of mineral and energy resources, encourage sustainable management of resources, prevent or minimize adverse effects to the environment, and protect public health and safety. Pursuant to Government Code Section 65302, a general plan must include “A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, *minerals*, and other natural resources” (emphasis added).¹⁷

3.12.4 ENVIRONMENTAL IMPACTS

3.12.4.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of Connect SoCal could result in significant adverse impacts to mineral resources if the Plan would result in any of the following:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

¹⁵ California Department of Conservation. 2018. *Surface Mining and Reclamation Act of 1975 Statutes and Regulations*. Available online at: <https://www.conservation.ca.gov/smg/Regulations/Documents/SMARA-statutes-regs-7-2018.pdf>, accessed August 19, 2019.

¹⁶ California Legislative Information. 1965. *ARTICLE 5. Authority for and Scope of General Plans [65300-65303.4]*.

¹⁷ *Ibid.*

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

3.12.4.2 Methodology

The methodology for determining the significance of impacts on mineral resources impacts compares the existing conditions (2019) to the future 2045 conditions under the Plan, as required by *CEQA Guidelines* Section 15126.2(a). Specifically, the volume of aggregate material likely to be required to support the transportation projects and urban development encouraged by land use strategies in the Plan was evaluated in relation to availability of permitted mineral resources, and other potential mineral resource recovery sites in the SCAG region. Mineral resources within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the six-county area, a review of *California Minerals and Mines*, and a review of related literature germane to the SCAG region.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.12.4.3 Impacts and Mitigation Measures

Impact MIN-1: Potential to result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would require substantial amounts of aggregate resources for construction purposes, constituting a significant impact. The six-county and 191-city SCAG region has approximately 1,832 million tons of permitted aggregate reserves (**Table 3.12-1**). The CGS estimates that the SCAG region would need

approximately 4,406 million tons of aggregate over the next 50 years.¹⁸ The difference of 2,574 million tons would need to be permitted over the next 50 years to meet the projected demand. **Table 3.12-1** indicates that, of the eight areas of permitted aggregate resources, one is projected to have less than 10 years remaining (San Fernando Valley/Saugus-Newhall) and three have 11 to 20 years left (Palmdale P-C Region, San Bernardino P-C Region, and Ventura County). The SCAG region's construction industry is greatly dependent on readily available aggregate deposits that are within a reasonable distance to market regions. Aggregate is a low-unit-value, high-bulk-weight commodity or material required for construction of most transportation projects and development projects that must be obtained from nearby sources in order to minimize costs to the consumer. If nearby sources do not exist, then transportation costs quickly could exceed the value of the aggregate.

Table 3.12-1 shows that just under 42 percent of the projected 50-year demand is currently permitted in the SCAG region (excluding mines in Imperial County). The Plan includes transportation system improvements, such as new or expanded highway/arterials, high-occupancy vehicle (HOV) lanes and connectors, new light and heavy rail, goods movement projects, and infrastructure that would require substantial amounts of aggregate resources. In addition, the regional land use strategies identified in the Plan would influence population distribution by focusing growth in HQTAs, existing suburban town centers, and more walkable, mixed-use communities. The development projects encouraged by these land use strategies included in the Plan would also result in a demand for aggregate resources for construction.

As a programmatic, long-range planning document, the Plan does not include specific construction information related to transportation projects or potential land use development. However, transportation projects included in the Plan and potential development could require substantial amounts of aggregate resources for construction. Therefore, impacts would be significant, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measures

SMM MIN-1: SCAG shall coordinate with the Department of Conservation, California Geological Survey to maintain a database of (1) available mineral resources in the SCAG region including permitted and unpermitted aggregate resources and (2) the anticipated 50-year demand for aggregate and other mineral resources. Based on the results of this survey,

¹⁸ California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Map_201807.pdf accessed August 19, 2019.

SCAG shall work with local agencies on strategies to address anticipated demand, including identifying future sites that may seek permitting and working with industry experts to identify ways to encourage and increase recycling to reduce the demand for aggregate.

Project Level Mitigation Measures

PMM MIN-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the use of mineral resources that could be of value to the region, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Provide for the efficient use of known aggregate and mineral resources or locally important mineral resource recovery sites, by ensuring that the consumptive use of aggregate resources is minimized and that access to recoverable sources of aggregate is not precluded, as a result of construction, operation and maintenance of projects.
- b) Where avoidance is infeasible, minimize impacts to the efficient and effective use of recoverable sources of aggregate through measures that have been identified in county and city general plans, or other comparable measures such as:
 - 1) Recycle and reuse building materials resulting from demolition, particularly aggregate resources, to the maximum extent practicable.
 - 2) Identify and use building materials, particularly aggregate materials, resulting from demolition at other construction sites in the SCAG region, or within a reasonable hauling distance of the project site.
 - 3) Design transportation network improvements in a manner (such as buffer zones or the use of screening) that does not preclude adjacent or nearby extraction of known mineral and aggregate resources following completion of the improvement and during long-term operations.
 - 4) Avoid or reduce impacts on known aggregate and mineral resources and mineral resource recovery sites through the evaluation and selection of project sites and design features (e.g., buffers) that minimize impacts on land suitable for aggregate and mineral resource extraction by maintaining portions of MRZ-2

areas in open space or other general plan land use categories and zoning that allow for mining of mineral resources.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to the loss of availability of known mineral resources that could be of value to the region and the residents of the state could be significant and unavoidable even with implementation of mitigation.

IMPACT MIN-2: Potential to result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan have the potential to impact availability of mineral resources if they are constructed in mineral resource zones. Improvements and modifications to existing rights-of-way, such as HOV lanes, high-occupancy toll (HOT) lanes, new bus-ways and capacity enhancement facilities, mixed flow lanes, and right-of-way maintenance would have less potential to impact mineral resources because these transportation projects improve facilities that already exist and are already impeding access to resources. Construction of new transportation projects, like new freeways, and even additional lanes, have the potential to impact availability of aggregate and mineral resources.

As noted in **Section 3.12.1.2** above, each county within the SCAG region contains mineral resources of local importance as noted in their respective general plans. These mineral resources generally include aggregate resources that are used in construction activities throughout the region. The Plan's transportation projects and anticipated development have the potential to reduce the availability of these resources, either directly by locating projects within mineral resource zones or indirectly through the use of aggregate and mineral resources in project development that may result in depletion of aggregate supply. Therefore, impacts would be significant, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measure

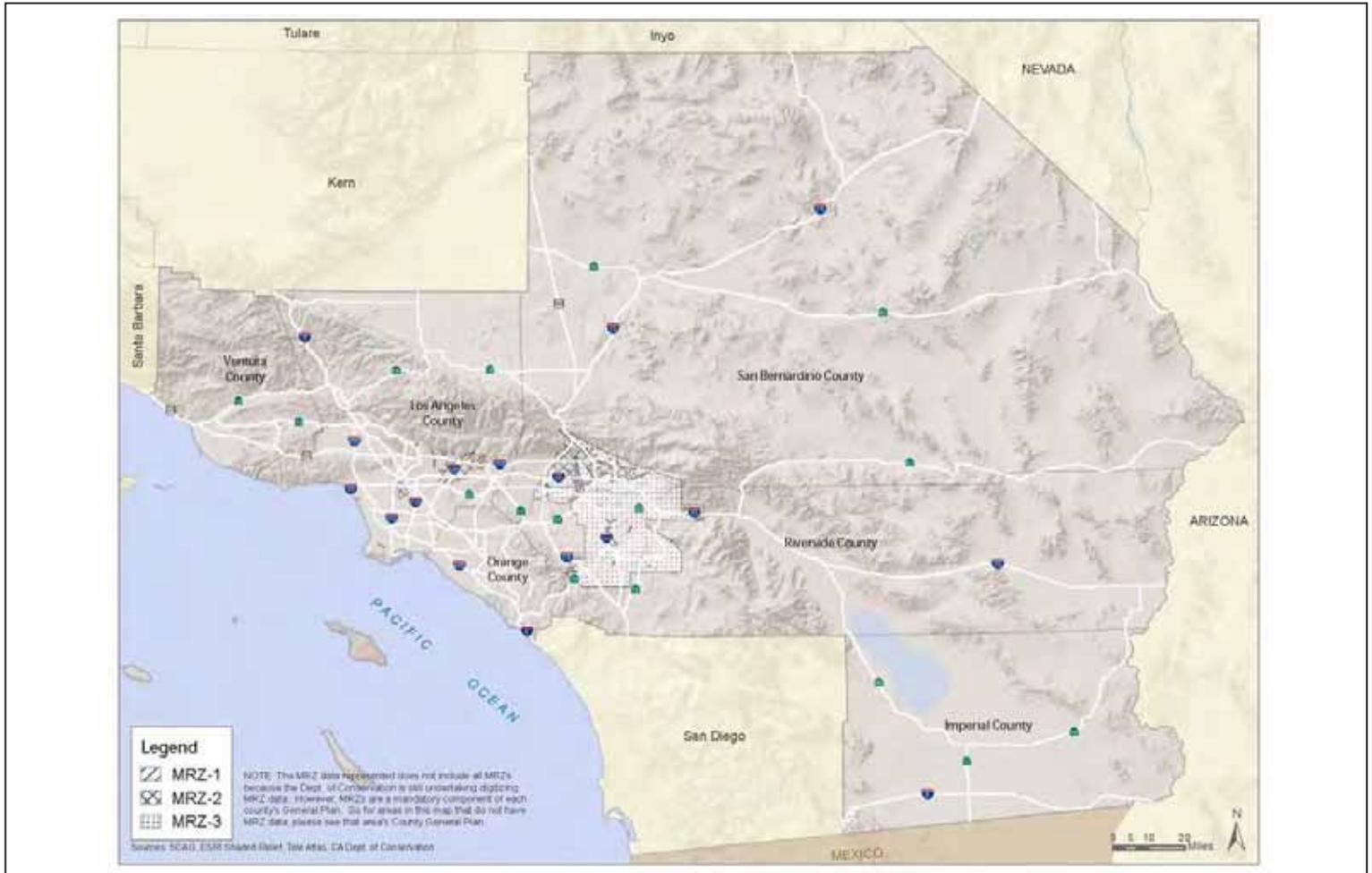
See **SMM MIN-1**.

Project Level Mitigation Measure

See **PMM-MIN-1**.

Level of Significance after Mitigation

As previously discussed, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project-specific detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to loss of availability of delineated locally important mineral resource recovery sites could be significant and unavoidable even with implementation of mitigation.



SOURCE: SCAG, ESRI Shaded Relief, TeleAtlas, CA Department of Conservation, 2015

FIGURE 3.12-1

Mineral Resources in the SCAG Region

3.12.5 SOURCES

- California Department of Conservation (DOC). 2017. *California's Non-Fuel Mineral Production in 2017*. Available online at: <https://www.conservation.ca.gov/cgs/Documents/california-non-fuel-mineral-production-2017.pdf>, accessed June 12, 2019.
- California Department of Conservation (DOC). *Guidelines for Classification and Designation of Mineral Lands*. Available online at: <https://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf>, accessed August 19, 2019.
- California Department of Conservation. 2018. *Surface Mining and Reclamation Act of 1975 Statutes and Regulations*. Available online at: <https://www.conservation.ca.gov/smgb/Regulations/Documents/SMARA-statutes-regs-7-2018.pdf>, accessed August 19, 2019.
- California Geological Survey (CGS). 2018. *Aggregate Sustainability in California*. Available online at: https://www.conservation.ca.gov/cgs/Documents/MS_052_California_Aggregates_Report_201807.pdf, accessed July 30, 2019.
- California Legislative Information. 1965. *ARTICLE 5. Authority for and Scope of General Plans [65300-65303.4]*. Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=65302, accessed August 19, 2019.
- Imperial County. *Imperial County General Plan: Conservation & Open Space Element*. Available online at: <http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf>, accessed June 24, 2019.
- Orange County Public Works. *General Plan Chapter VI: Resources Element*. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235>, accessed June 24, 2019.
- Riverside County Planning Department. *General Plan: Multipurpose Open Space Element*. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch05_MOSE_120815.pdf?ver=2017-10-11-102103-833, accessed June 24, 2019.
- San Bernardino County, Land Use Services. *Countywide Plan: Conservation Element*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed June 24, 2019.
- SCAG. 2015. 2016 Regional Transportation Plan/ Sustainable Communities Strategy PEIR. November 2015.
- U.S. Congress. *S. 1894 – Indian Mineral Development Act of 1982*. Available online at: <https://www.congress.gov/bill/97th-congress/senate-bill/1894>, accessed August 19, 2019.
- Ventura County Resource Management Agency. *Ventura County General Plan*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed June 24, 2019.

This section of the Program Environmental Impact Report (PEIR) describes the ambient noise characteristics in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern noise, and evaluates and discusses the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.13.1 ENVIRONMENTAL SETTING

3.13.1.1 Definitions

Terms and criteria used in the assessment of noise impacts are described below.

A-weighting: This is the method commonly used to quantify environmental noise that involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Because the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called A-weighting (dBA).

Ambient: Ambient is the total noise in the environment, excluding noise from the source of interest.

Community noise equivalent level (CNEL): CNEL represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for people’s lower tolerance of noise during the evening and nighttime hours. Because community receptors are more sensitive to unwanted noise intrusion during the evening and night, an artificial decibel increment is added to quiet-time noise levels. Sound levels are increased by 5 dBA during the evening, from 7:00 p.m. to 10:00 p.m. and by 10 dBA during the nighttime, from 10:00 p.m. to 7:00 a.m. during this quiet time period.

Day-night equivalent level (L_{dn}): L_{dn} is a measure of the 24-hour average noise level at a given location. It is based on a measure of the L_{eq} noise level over a given time period. The L_{dn} is calculated by averaging the L_{eq} for each hour of the day at a given location after penalizing the “sleeping hours” (defined as 10:00 p.m. to 7:00 a.m.), by 10 dBA to account for the increased sensitivity of people to noises that occur at night. L_{dn} is also referred to as day-night average (DNL) sound level in some cases.

Decibel (dB): dB is a unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.

Equivalent sound level (L_{eq}): L_{eq} is a term typically used to express time averages. It is a steady-state energy level that is equivalent to the energy content of a varying sound level over a stated period of time, which means that the L_{eq} represents the noise level experienced over a stated period of time averaged as a single noise level.

Frequency: Frequency is the number of cycles per unit of time (seconds), expressed in hertz (Hz).

Noise: Noise is any sound that annoys or disturbs humans or that causes or tends to cause an adverse psychological or physiological effect on humans. Any unwanted sound.

Noise level (L_N): Another measure used to characterize noise exposure, L_N is the variation in sound levels over time, measured by the percentage exceedance level. L_{10} is the A-weighted sound level that is exceeded for 10 percent of the measurement period, and L_{90} is the level that is exceeded for 90 percent of the measurement period. L_{50} is the median sound level. Additional statistical measures include L_{min} and L_{max} , the minimum and maximum sound levels, respectively, measured during a stated measurement period.

Peak Particle Velocity (PPV): Defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second (in/sec).

Sound: A vibratory disturbance created by vibrating objects, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.

Sound Exposure Level (SEL): This metric represents all the acoustic energy (a.k.a. sound pressure) of an individual noise event as if that event had occurred within a one-second time period. SEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by "squeezing" all the noise energy from an event into one second. This provides a uniform way to make comparisons among noise events of various durations.

Vibration: Vibration is the mechanical motion of earth or ground, building, or other type of structure, induced by the operation of any mechanical device or equipment located upon or affixed thereto. For purposes of this report, the magnitude of the vibration shall be stated as the acceleration in "g" units (1 g is equal to 32.2 feet/second², or 9.81 meters/second²).

Noise Fundamentals

Noise is defined as unexpected and unwanted sound. Unlike other linear measures, such as weight and time, noise levels are measured in decibels (dB) on a logarithmic scale. Thus, doubling a noise source, such as traffic volumes, does not double the noise level, but instead increases the resultant noise level by 3 dB.^{1,2} Conversely, reducing a noise source in half results in a 3 dB decrease.³ Thus, due to the logarithmic scale of the decibel unit, sound levels are not added or subtracted arithmetically. Moreover, in cases where existing ambient noise levels are already relatively high, there will be a small change in overall noise levels when a newer and lesser noise source is added. For example, when 70 dB ambient noise levels are combined with a 60 dB noise source, the resulting noise level equals 70.4 dB.⁴

A significant challenge in managing and mitigating noise is that not every person or community perceives and responds to noise in the same way. From an individual to the neighborhood level, there are different thresholds and tolerances for sound. Furthermore, one community (e.g. urban environment) may deem a land use (e.g. airport expansion) acceptable within a certain noise level, while another (e.g. suburban) might not. Moreover, sensitive receptors, such as residential areas, convalescent homes, schools, auditoriums, and other similar land uses, may be affected to a greater degree by increased noise levels than industrial, manufacturing, or commercial facilities. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and at the highest intensity levels, hearing loss.⁵

The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Since the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called “A-weighting,” written as dBA.⁶ In practice, environmental noise is measured using a sound level meter that includes an electronic filter corresponding to the A-weighted frequency spectrum. Typical examples can be used to

¹ Federal Transit Administration, Office of Planning and Environment. 2018. *Transit Noise and Vibration Impact Assessment*. Washington, DC.

² California Department of Transportation, Division of Environmental Analysis. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA.

³ Ibid.

⁴ Ibid.

⁵ U.S. Environmental Protection Agency, Office of Noise Abatement and Control. 1978. *Noise: A Health Problem*. Washington, DC.

⁶ California Department of Transportation, Division of Environmental Analysis. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Sacramento, CA.

illustrate sound sources that correlate to measure A-weighted sound levels and the subjective loudness to a person (Table 3.13-1, Common Sound Levels and Loudness).

**Table 3.13-1
Common Sound Levels and Loudness**

Decibel (dB)	Subjective Loudness	Source of Sound
130	Threshold of pain	Military jet aircraft take-off from aircraft carrier with afterburner at 50 feet
120	Uncomfortably loud	Turbo-fan aircraft at takeoff power at 200 feet; rock band
110		
100	Very loud	Boeing 707 or DC-8 aircraft at 1 nautical mile (6,080 feet) before landing; jet flyover at 1,000 feet; Bell J-2A helicopter at 100 feet
90		Boeing 737 or DC-9 aircraft at 1 nautical mile before landing; power mower; motorcycle at 25 feet; car wash at 20 feet
80		High urban ambient sound; diesel truck at 40 mph at 50 feet; diesel train at 45 mph at 100 feet; passenger car at 65 mph at 25 feet; food blender; garbage disposal
70	Moderately loud	Living room music; radio or TV audio; vacuum cleaner
60		Air conditioning unit at 100 feet; dishwasher (rinse) at 10 feet; conversation
50	Quiet	Large transformers at 100 feet
40		Bird calls; lowest limit of urban ambient sound
30		
20		Quiet living room
10	Just audible	Average whisper
0	Threshold of hearing	

Source:

Adapted from: Federal Interagency Committee on Noise. August 1992. Federal Agency Review of Selected Airport Noise Analysis Issues. Table B.1. Washington, DC.

Adapted from: Cowan, James P. 1993. Handbook of Environmental Acoustics. Hoboken, NJ: John Wiley and Sons.

Vibration Measurement

Vibration is an oscillatory motion in terms of displacement, velocity, or acceleration. Vibration is typically measured as peak particle velocity (PPV) in inches per second. In this context, vibration refers to the minimum ground- or structure-borne motion that causes a normal person to be aware of the vibration by means such as, but not limited to, sensation by touch or visual observation of moving objects. The effects of ground-borne vibration include movements of the building floors that can be felt, rattling of windows, and shaking of items on shelves or hangings on the walls. In extreme cases, vibration can cause damage to buildings. The noise radiated from the motion of the room surfaces is called ground-borne noise (Table 3.13-2, Typical Levels of Ground-Borne Vibration). The vibration motion normally does not provoke the same adverse human reactions as the noise unless there is an effect associated with the shaking of the

building. In addition, the vibration noise can only occur inside buildings. Similar to the propagation of noise, vibration propagated from the source to the receptor depends on the receiving building (i.e., the weight of the building), soil conditions, layering of the soils, the depth of groundwater table, and so forth.

**Table 3.13-2
Typical Levels of Ground-Borne Vibration**

Response	Velocity Level*	Typical Sources (at 50 feet)
Minor cosmetic damage of fragile buildings	100	Blasting from construction projects
Difficulty with tasks such as reading a videodisplay terminal (VDT) screen	90	Bulldozers and other heavy tracked construction equipment
Residential annoyance, infrequent events	80	Rapid transit, upper range
Residential annoyance, frequent events	70	High speed rail, typical
Approximate threshold for human perception	60	Bus or truck, typical
	50	Typical background vibration

Note:

* Root mean square (RMS) vibration velocity level in VdB relative to 10^{-6} inches/second

Source:

Nelson, J.T., and H.J. Saurenman. December 1983. *State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains*. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.

Ambient Noise Level

The 38,000-square-mile SCAG region includes 6 counties and 191 cities. It covers a diverse array of land uses that range from quiet, undeveloped rural areas to loud, dense, urban areas. Ambient noise levels for areas where sensitive receptors may be located can range from 46 dBA for a small town or quiet suburban area to greater than 87 dBA for an urban area next to a freeway.⁷ Given the size of the SCAG region and the variation in sources, it is not useful to complete a detailed noise monitoring study for this PEIR.

⁷ U.S. Environmental Protection Agency, Office of Noise Abatement and Control. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health with an Adequate Margin of Safety*. Available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF>, accessed March 27, 2019.

Rather, this PEIR presents a discussion of noise levels associated with different noise sources, thereby allowing the reader to infer the noise level at different locations depending on the proximity of a location to a noise source. Since the range of ambient noise levels is so vast, a variety of land uses and locations was sampled in order to characterize their ambient noise levels. Six locations were selected within the SCAG region to represent the range of ambient noise conditions by land use types (**Table 3.13-3, Ambient Noise Sampling Data**).

**Table 3.13-3
Ambient Noise Sampling Data**

Location	Land Use	Peak Hour Noise Level (dBA, Leq)
City of Los Angeles (Mission Hills)	Cemetery	62
City of Los Angeles (Baldwin Hills)	Residential (Multi-Family/Industrial Adjacent)	60
City of Riverside	Institutional (University)	56
City of Pasadena	Mixed-Use (Multi-Family Residential and Retail)	63
City of Los Angeles (Del Rey)	Residential (Single Family)	63
City of Moorpark	Recreational (City Park)	48
City of Los Angeles (Boyle Heights)	Institutional (High School/Middle School Adjacent)	57

Source: Impact Sciences, 2019

The most common noise sources within the SCAG region is traffic on highways and on arterial roadways. Higher levels of noise from traffic are generally due to higher traffic volumes and faster travel speeds. Aircraft noise is also present in many areas of the SCAG region, with higher noise levels generated during takeoff and landing. Rail traffic and industrial and commercial activities also contribute to the noise level. Other contributors may also include construction, garbage collecting trucks, helicopters (news, police activity and tourism) and sporting/special events.

Transportation

Many principal noise generators within the SCAG region are associated with transportation (i.e., airports, freeways, arterial roadways, seaports, and railroads). However, local collector streets are not considered to be a significant source of noise since traffic volumes and travel speeds are generally much lower than for freeways and arterial roadways.

Airports and Aviation

The six-county SCAG region is home to an expansive multiple airport system that includes seven commercial airports with scheduled passenger service, seven government/military air fields, and more

than 30 reliever and general aviation airports. The seven commercial service airports in the region with scheduled passenger service are: Hollywood-Burbank (BUR), Imperial (IPL), Long Beach (LGB), Los Angeles (LAX), Ontario (ONT), Palm Springs (PSP), and Santa Ana (SNA). Sixteen of the airports in the region are designated by the Federal Aviation Administration (FAA) as reliever airports, which means that those airports could provide congestion relief for any of the commercial service airports in the region if needed. With such a large and versatile transportation system, the SCAG region airports support a significant amount of passenger and goods movement, and the subsequent volume of air traffic. See **Table 3.13-4, Major Commercial Airports within the SCAG Region.**⁸

**Table 3.13-4
Major Commercial Airports within the SCAG Region**

Airport	Location	Airport Land Use Plan	Noise Contour Available?
Bob Hope Airport	Burbank	Los Angeles County Airport Land Use Plan	Yes
Ontario International Airport	Ontario	LA/Ontario International Airport Land Use Compatibility Plan	Yes
Los Angeles International Airport	Los Angeles	Los Angeles County Airport Land Use Plan	Yes
Long Beach Airport	Long Beach	Los Angeles County Airport Land Use Plan	Yes
Palm Springs International Airport	Palm Springs	Riverside County Airport Land Use Compatibility Plan	Yes
John Wayne Airport	Santa Ana	Airport Environs Land Use Plan for John Wayne Airport	Yes
Imperial County Airport	Imperial	Airport Land Use Compatibility Plan for Imperial County Airports	Yes

Source:

Southern California Association of Governments. 2019. Connect SoCal: Aviation and Airport Ground Access Technical Report.

Noise associated with aviation arise primarily from aircraft operations. Specifically, aircraft operations can generate substantial levels of noise exposure when one is in the immediate vicinity of airport runways, or when one is near the flight path of an aircraft departure or approach at lower altitudes. In addition to proximity to runways and departure/approach flight paths, other contributing factors to noise impacts include duration of noise exposure, the type of aircraft operated, number of aircraft operations (e.g. take-offs, landings, flyovers), altitude of the aircraft, and atmospheric conditions, which may influence the direction of aircraft operations and affect noise propagation.

⁸ Southern California Association of Governments. 2008. *SCAG Commercial Airport System Map*. Available at: http://www.scag.ca.gov/Documents/commercialairport_2008.pdf, accessed March 27, 2019.

Typically, most major public airports will have an airport land use plan that provides guidance on noise levels and land use in adjacent areas. The FAA measures airport-related noise in communities in terms of overall exposure rather than single events such as takeoffs and landings since overall exposure would account for the overall number of noise events and the time when these events occur. The day night average sound level (L_{dn}) is the standard federal (FAA and EPA) metric for this measurement; however, the FAA also accepts the CNEL when a state requires that metric to assess noise effects. The State of California Department of Transportation Division of Aeronautics adopted the CNEL as their methodology for describing airport noise exposure.⁹ Noise levels computed by these two methods typically differ by less than 1 dBA. The resulting noise contour map identifies geographic areas that are exposed to various levels of impacts from airport noise. Areas that are within the noise contours of 65 dBA CNEL and above, associated with airport activities, are considered to be incompatible with certain land uses, including residences, schools, hospitals, and childcare facilities.¹⁰

Freeways, Highways, and Arterial Roadways

The SCAG region has more than 73,000 lane miles.¹¹ Regionally significant arterials provide access to the freeway system and often serve as parallel alternate routes; in some cases, they are the only major system of transportation available to travelers. Typical arterial roadways have one or two lanes of traffic in each direction, with some containing as many as four lanes in each direction. Traffic noise is generated primarily from vehicles and dominated by trucks. In general, higher traffic volumes, higher speeds, and greater numbers of trucks will increase the noise level. Vehicle noise comes from noises generated by the engine, exhaust, and tires, and is often exacerbated by vehicles in a state of disrepair, such as defective mufflers or struts.

There are also environmental factors that affect noise from highway and roads. The level of traffic noise can be reduced by distance, terrain, vegetation, and intervening obstructions. However, unlike construction noise, traffic noise is a line source, not a point source. Therefore, the attenuation with distance is not as great as for traffic noise. In comparison, a point source such as stationary construction equipment attenuates by 6 dB with every doubling of the distance, whereas a line source such as traffic attenuates only by 3 dB with every doubling of the distance.

⁹ California Department of Transportation. *Airport Noise Program*. Available online at: <https://dot.ca.gov/programs/aeronautics/airport-noise-program>, accessed September 4, 2019.

¹⁰ Federal Aviation Administration. 2007. *Environmental Desk Reference for Airport Actions*. Chapter 17, Noise. Washington, DC. October.

¹¹ Southern California Association of Governments (SCAG). 2019. Model Output, September 10, 2019.

Traffic noise can therefore be a significant environmental concern where buffers (e.g., buildings, landscaping, etc.) are inadequate or where the distance to sensitive receptors is relatively short. Given typical daily traffic volumes of 10,000 to 40,000 vehicle trips, noise levels along arterial roadways typically range from L_{dn} 65 to 70 dB at a distance of 50 feet from the roadway centerlines.

In addition to distance, the line of sight also affects the extent to which traffic noise can affect sensitive receptors. Line of sight can be interrupted by roadways that are elevated above grade or depressed below grade; by intervening structures such as buildings, landscaping, and sound walls; or by terrain such as hills. For example, measurements show that depressing a freeway by approximately 12 feet yields a reduction in traffic noise relative to an at-grade freeway of 7 to 10 dB at all distances from the freeway due to the interrupted line of sight. Traffic noise from an elevated freeway is typically 2 to 10 dB less than the noise from an equivalent at-grade facility within 300 feet of the freeway, but beyond 300 feet, the noise radiated by an elevated and at-grade freeway (assuming equal traffic volumes, fleet mix, and vehicle speed) is the same because at short distances, the elevated structure of the freeway itself interrupts the line of sight between the traffic and the sensitive receptor, but that line of sight is reestablished at greater distances.¹² Caltrans also has an extensive sound wall program for areas with residential property built prior to the freeway or prior to a major widening and has hourly noise levels that exceed the 67-dB (L_{eq}) threshold, and where the wall would be able to achieve at least a 5-dB reduction and the cost would not exceed \$35,000 per residential unit (1987 dollars).¹³ A typical wall that interrupts the line of sight is capable of reducing noise levels by 10 dB to 15 dB.

Railroad Operations

Railroad operations generate high, relatively brief, intermittent noise events. These noise events are an environmental concern for sensitive receptors located along rail lines and in the vicinities of switching yards. Locomotive engines; the interaction of steel wheels and rails from rolling noise, impact noise when a wheel encounters a rail joint, turnout, or crossover, and squeal generated by friction on tight curves; and warning devices such as air horns and crossing bell gates are the primary sources of rail noise. Noise levels vary widely for different types of rail operations (**Table 3.13-5, Reference Noise Levels for Various Rail Operations**).

¹² California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September.

¹³ California Department of Transportation. 2010. *Soundwalls*. Website. Available online at: <http://www.dot.ca.gov/dist07/resources/soundwalls/>, accessed March 27, 2019.

**Table 3.13-5
Reference Noise Levels for Various Rail Operations**

Source/Type		Reference Condition	Reference Noise Level (SEL, dBA)
Commuter rail, at-grade	Locomotives	Diesel-electric, 3,000 horsepower	92
		Electric	90
	Diesel multiple unit	Diesel-powered, 1,200 horsepower	85
	Horns	Within one-quarter mile of grade crossing	110
	Cars	Ballast, welded rail	82
Rail transit		At-grade, ballast, welded rail	82
Transit whistles/warning devices		Within one-eighth mile of grade crossing	93
Automated guideway transit	Steel wheel	Aerial, concrete, welded rail	80
	Rubber tire	Aerial, concrete, guideway	78
Monorail		Aerial, straddle beam	82
Maglev		Aerial, open guideway	72

Source:

Federal Transit Administration. May 2018. *Transit Noise and Vibration Impact Assessment Manual*. Washington, DC.

Freight Trains

Locomotive engine noise and wheel-to-rail interactions are the primary source of noise generated by freight train pass-by events. Engine noise increases when the train is being pulled uphill. Wheel noise increases approximately 6 dB for each doubling of train velocity. A rail line supporting 40 freight trains per day generates approximately L_{dn} 75 dB at 200 feet from the tracks. Freight trains also generate substantial amounts of ground-borne noise and vibration in the vicinity of the tracks. Ground-borne noise and vibration is a function of both the quality of the track and the operating speed of the train.

The SCAG region is served by two Class I railroads: Union Pacific Railroad (UP) and Burlington Northern/Santa Fe Railway (BNSF).¹⁴ BNSF rail lines extend south from switching yards in eastern Los Angeles to the Los Angeles and Long Beach ports complex and east to Arizona and points beyond via San Bernardino County. In addition, there are three Class III railroads (short lines) serving the region, the Pacific Harbor Line (which handles all rail coordination in the Ports of Los Angeles and Long Beach), the

¹⁴ Southern California Association of Governments. 2012. *On the Move: Southern California Delivers the Goods*. Summary Report. December.

Los Angeles Junction Railway (which provides switching service in the Vernon area for the two main line railroads), and the Ventura County Railroad (which serves the Port of Hueneme).

Completed in 2002, the Alameda Corridor provides a substantial long-term reduction in noise and vibration associated with rail operations in the vicinities of the Ports of Long Beach and Los Angeles by eliminating over 200 grade-level street/rail crossings.¹⁵ The Alameda Corridor consolidates the operations of UP and BNSF on 90 miles of existing branch line tracks into one 20-mile corridor along Alameda Street. This corridor provides a direct connection between the ports of Long Beach and Los Angeles and the UP and BSNF switching yards in eastern Los Angeles. The project includes four overpasses and three underpasses at intersections south of SR-91 that allow vehicles to pass above the trains. North of SR-91, trains pass through a 10-mile, 33-foot-deep trench.¹⁶ The construction of tracks in a below-grade trench, track construction on new base materials, and the use of continuous welded track reduce noise impacts on adjacent uses from trains associated with the ports. The project also includes sound walls in certain locations to mitigate vehicle noise along Alameda Street in residential neighborhoods and other sensitive areas.

Commuter Rail

In general, the noise generated by commuter rail facilities (powered by either diesel or electric locomotives) is from the locomotives themselves. In the SCAG region, there are two commuter and intercity passenger train operators: Amtrak and the Southern California Regional Rail Authority (SCRRA).

Amtrak operates five routes that travel through the SCAG region: Texas Eagle, Coast Starlight, Pacific Surfliner, Southwest Chief, and Sunset Limited. These routes serve Chicago, St. Louis, Dallas, San Antonio, Los Angeles, Portland, Seattle, San Luis Obispo, Santa Barbara, San Diego, Albuquerque, and New Orleans.¹⁷ A typical Amtrak pass-by event generates SEL 107 dB at 50 feet; two such events during the daytime or evening periods generate approximately L_{dn} 61 dB at 50 feet and approximately L_{dn} 52 dB at 200 feet. Nine such events generate approximately L_{dn} 67 dB at 50 feet and 58 L_{dn} dB at 200 feet.

¹⁵ Alameda Corridor Transportation Authority. *Alameda Corridor Fact Sheet*. Available online at: http://www.acta.org/projects/projects_completed_alameda_factsheet.asp, accessed January 9, 2019.

¹⁶ Ibid.

¹⁷ Amtrak. *California Train Routes*. Available online at: <http://www.amtrak.com/california-train-routes>, accessed January 9, 2019.

The SCRRA operates the Metrolink commuter rail system. This system currently includes 59 stations and 7 rail lines: Antelope Valley, Inland Empire–Orange County, Orange County, Riverside, San Bernardino, Ventura, and 91.¹⁸ Noise levels generated by Metrolink are similar to those associated with Amtrak.

Urban Rail Transit

This category includes both heavy and light rail transit. Heavy rail is generally defined as electrified rapid transit trains with dedicated guideways, and light rail as electrified transit trains that do not require dedicated guideways. In general, noise increases with speed and train length. Sensitivity to rail noise generally arises when there is less than 50 feet between the rail and sensitive receptors. Individual urban rail transit pass-by events generate substantially less noise than commuter rail events, but the aggregate noise impact for sensitive uses along the line can be similar or greater due to the much higher frequency of pass-by events. Complaints about ground-borne vibration from surface track are more common than complaints about ground-borne noise. A significant percentage of complaints about noise can be attributed to the proximity of switches, rough or corrugated track, or wheel flats.

In the SCAG region, the Los Angeles County Metropolitan Transportation Authority (Metro) provides urban rail transit for their 1,479-square-mile service area. Metro operates 98 miles of rail service on two subway lines (Purple and Red) and four light rail lines (Blue, Expo, Gold, and Green).¹⁹ The Purple Line extends from downtown Los Angeles west to the Koreatown neighborhood with 8 existing stations. The Red Line extends from downtown Los Angeles west to the Koreatown neighborhood and then north to North Hollywood with 14 existing stations. The Blue Line extends from Long Beach to downtown Los Angeles with 22 existing stations. The Expo Line extends from downtown Los Angeles to Santa Monica with 19 existing stations. The Gold Line extends from East Los Angeles to Azusa with 27 existing stations. The Green Line extends from Norwalk west to El Segundo and south to Redondo Beach with 14 existing stations. In addition, Metro has two (Orange and Silver) bus rapid transit ways (BRTs). The Orange Line extends from North Hollywood, travels west to Woodland Hills, and then north to Chatsworth, with 18 existing stations. The Silver Line extends from El Monte west to downtown Los Angeles and then south to San Pedro with 11 existing stations.

¹⁸ Metrolink. *Experience Metrolink's History*. Available online at: <https://www.metrolinktrains.com/about/agency/history-of-metrolink/>, accessed January 9, 2019

¹⁹ Los Angeles County Metropolitan Transportation Authority. *Facts at a Glance*. Available online at: <https://www.metro.net/news/facts-glance/>, accessed January 7, 2019.

Port Operations

The three major ports in the SCAG region, Port of Los Angeles, Port of Long Beach, and Port of Hueneme in Ventura County, provide a major link between the United States and the Pacific Rim countries. Noise associated with port operations is typically generated from three sources: ships using the port facilities, equipment associated with cargo activity within the port, and truck and rail traffic that move cargo to and from the ports. These sources affect the ambient noise levels in the port areas. Residential areas in San Pedro, Wilmington, and West Long Beach are affected most by truck and rail traffic related to the ports.

Since 2000, the Port of Los Angeles has handled more container volume of cargo than any other port in the United States. In fiscal year 2017, the Port of Los Angeles handled 198 million metric revenue tons (MMRT) of cargo,²⁰ Port of Long Beach handled 168.1 MMRT,²¹ and Port of Hueneme handled 1.4 MMRT.²² When combined together, the Port of Los Angeles and the Port of Long Beach rank ninth in the world for container volume. The Ports of Los Angeles, Long Beach, and Hueneme are major regional economic development centers. The San Pedro Bay Ports, which include the Los Angeles and Long Beach Ports, currently handle approximately 32 percent of the cargo volume in the country;²³ the Port of Hueneme in Ventura County is a major shipping point for automobiles, non-automotive roll-on roll off cargo, project cargo, fresh produce, and liquid bulk.²⁴

Industrial and Manufacturing Noise

Noise from industrial complexes and manufacturing plants are characterized as stationary point sources of noise even though they may include mobile sources such as forklifts. Local governments typically regulate noise from industrial and manufacturing equipment and activities through enforcement of noise ordinance standards and implementation of general plan policies. Industrial complexes and manufacturing plants are generally located away from sensitive land uses, and, as such, noise generated from these sources generally has less effect on the local community.

²⁰ Port of Los Angeles. 2018. *Facts & Figures [2018]*. Available online at: <https://kentico.portoflosangeles.org/getmedia/fe3515ee-309e-47b3-83ad-b09d58edec67/2018-facts-figures>, accessed August 28, 2019.

²¹ The Harbor Department, an Enterprise Fund of the City of Long Beach, California. 2017. *Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2017*.

²² Port of Hueneme. 2017. *Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2017*. November.

²³ Port of Los Angeles. 2018. *Facts & Figures [2018]*. Available online at: <https://kentico.portoflosangeles.org/getmedia/fe3515ee-309e-47b3-83ad-b09d58edec67/2018-facts-figures>, accessed August 28, 2019.

²⁴ Port of Hueneme. 2017. *Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2017*. November.

Construction Noise

Noise from construction sites are characterized as stationary point sources of even though they may include mobile sources, such as graders, they generally move slowly. Local governments typically regulate noise from construction equipment and activities through enforcement of noise ordinance standards and imposition of conditions of approval for building or grading permits.

Construction noise related to transportation projects is typically addressed in each project's noise analysis report and related environmental document. Most projects will not require modeling or any form of analysis associated with construction-related noise. Some projects may require basic noise calculations. For projects that require compliance with local ordinances, more detailed analysis techniques may be required.

Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and line of sight between the noise source and the receptor (temporary barriers can block the line of sight to reduce noise levels). The Federal Transit Administration has established typical noise levels associated with various types of construction-related machinery (**Table 3.13-6, Construction Equipment Noise Levels**). In contrast to industrial and manufacturing plants, construction sites are located throughout the region and are often located within, or adjacent to, residential districts and other sensitive receptors. While individual construction sites come and go (as buildings are constructed and completed), there is generally on-going construction activity in the region.

In general, construction activities generate high noise levels intermittently on and adjacent to the construction sites, and the related noise impacts are short-term in nature for individual sites but on-going throughout the region. The dominant source of noise from most construction equipment is the engine, usually a diesel engine, with inadequate muffling. In a few cases, however, such as impact pile driving or pavement breaking, noise generated by the process dominates. Construction equipment can be considered to operate in two modes, stationary and mobile. Stationary equipment operates in one location for one or more days at a time, with either a fixed-power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders), or movement to and from the site (trucks). The noise levels of these point sources decrease by approximately 6 dB with each doubling of distance from the noise source (e.g., noise levels from excavation might be approximately 83 dB at 100 feet from the site, and about 77 dB at 200 feet from the site). Interior noise levels from construction are approximately 10 dB (open windows) to 20 dB (closed windows) less than exterior noise levels due to the attenuation provided by building walls.

Construction projects often create activities that extend beyond project limits. These can include activities such as trucks supplying material (stone, concrete, steel, etc.) to a project, trucks hauling soil and/or demolition materials from a project site, activity associated with off-site operations such as materials storage areas, and effects of detoured or rerouted traffic due to construction activities. Haul routes may be specifically designated for use by construction-related traffic when supplying and hauling excess material from the project site, potentially creating a high source of noise depending on the number and frequency of trucks utilizing the route.

**Table 3.13-6
Construction Equipment Noise Levels**

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84

Equipment	Typical Noise Level (dBA) at 50 feet from Source
Tie Handler	80
Tie Inserter	85
Truck	84

Source:

Federal Transit Administration. September 2018. *Transit Noise and Vibration Impact Assessment Manual*. Washington, DC.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to noise exposure (in terms of both exposure time and “insulation” from noise) and the types of activities typically involved. Residences, motels, and hotels; schools; libraries; churches; hospitals; nursing homes and senior centers; and natural areas, parks, and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses. The 38,000-square-mile SCAG region contains a large number of these sensitive land uses. The noise-sensitive areas of residences, schools, libraries, churches, hospitals, nursing homes, natural areas, and parks are generally more sensitive to noise than are commercial and industrial land uses. Increases in noise near these sensitive receptors are more likely to cause an adverse community response.

As such, the noise standards for sensitive land uses are more stringent than those for less sensitive uses. To protect various human activities and sensitive land uses (e.g., residences, schools, and hospitals) lower noise levels are needed. An exterior noise level of L_{dn} 55 to 60 dB is the upper limit for intelligible speech communication inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at L_{dn} 55 dB. Sporadic complaints associated with the L_{dn} 55 to 60 dB range give way to widespread complaints and individual threats of legal action within the L_{dn} 60 to 70 dB range. At L_{dn} 70 dB and above, residential community reaction typically involves threats of legal action and strong appeals to local officials to stop the noise.

Sensitive receptors for vibration are the same as for noise, with one exception. Historic structures are potentially sensitive to excessive vibration because ground vibration will excite building structures, and if the vibration levels are high, there is a potential for structural damage. The Caltrans Transportation and Construction Vibration Manual references the National Cooperative Highway Research Program report for a summary of construction effects on historic buildings.²⁵ Using the most conservative values in the report, historic buildings may be damaged when a single vibration event exceeds 0.20 ppv or frequent

²⁵ Caltrans. 2013. *Transportation and Construction Guidance Manual*. Page 26. September.

vibration events exceed 0.13 ppv, whereas extremely fragile historic buildings may be damaged when a single vibration event exceeds 0.12 ppv or frequent vibration events exceed 0.08 ppv.²⁶

3.13.2 REGULATORY FRAMEWORK

The federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce, such as aircraft, locomotives, and trucks; and, for those noise sources, the state government is preempted from establishing more stringent standards. The state sets noise standards for those transportation noise sources that are not preempted from regulation, such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies.

3.13.2.1 Federal

Noise Control Act of 1972

The Noise Control Act of 1972, as codified in 42 U.S. Code §4901 et seq., establishes a means for effective coordination of federal research and activities in noise control, authorizes the establishment of federal noise emission standards for products distributed in commerce, and provides information to the public with respect to the noise emission and noise reduction characteristics of such products.²⁷

Noise Emission Standards for Interstate Rail Carriers, Motor Carriers, Construction Equipment, and Medium and Heavy Duty Trucks (Title 40 of the Code of Federal Regulations Parts 201, 202, 204, and 205)

The Federal Highway Administration sets federal regulations related to noise limits for locomotives, and medium and heavy trucks, and standards for noise studies and studies for federal and federal-aid highway projects.

Part 201

Federal regulations for railroad noise are contained in Title 40 of the Code of Federal Regulations (CFR) Part 201 and 49 CFR Part 210. The regulations set noise limits for locomotives and are implemented through regulatory controls on locomotive manufacturers.^{28,29}

²⁶ National Cooperative Highway Research Program. 2012. *Current Practices to Address Construction Vibration and Potential Effects to Historic Buildings Adjacent to Transportation Projects*. Table 1. September.

²⁷ U.S. Environmental Protection Agency. 2017. *Summary of the Noise Control Act, 42 U.S.C §4901 et seq. (1972)*

²⁸ Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Parts 190 to 259*.

Part 202

Federal regulations regarding motor carriers engaged in interstate commerce are contained in Title 40 of the CFR Part 202. The regulations set noise limits for motor carriers engaged in interstate commerce, including setting standards for highway operations.³⁰

Part 204

Title 40 of the CFR Part 204 sets noise emission standards for construction equipment. The regulations set noise standards and requirements as well as testing, for construction equipment including air compressors.³¹

Part 205

Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR Part 205, Subpart B. The federal truck pass-by noise standard is 80 decibels (dB) at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. The Federal Highway Administration (FHWA) regulations for noise abatement must be considered for federal or federally funded projects involving the construction of a new highway or significant modification of an existing freeway when the project would result in a substantial noise increase or when the predicted noise levels approach or exceed the Noise Abatement Criteria (NAC).³²

Abatement of Highway Traffic Noise and Construction Noise (Title 23 of the Code of Federal Regulations Part 772)

Title 23 CFR § 772.1 *et seq.* provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR §772.7, projects are categorized as Type I or Type II projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. A Type II project is a noise barrier retrofit project that involves no changes to highway capacity or alignment.

²⁹ Code of Federal Regulations. 2018. *Title 49 Transportation, Parts 200 to 299.*

³⁰ Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Parts 190 to 259.*

³¹ *Ibid.*

³² Code of Federal Regulations. 2018. *Title 40 Protection of the Environment, Volume 27.*

Type I projects include those that create a completely new noise source, as well as those that increase the volume or speed of traffic or move the traffic closer to a receiver. Type I projects include the addition of an interchange, ramp, auxiliary lane, or truck-climbing lane to an existing highway, or the widening an existing ramp by a full lane width for its entire length. Projects unrelated to increased noise levels such as striping, lighting, signing, and landscaping projects are not considered Type I projects.

Under Title 23 CFR § 772.11, noise abatement must be considered for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR § 772 requires that the project sponsor consider noise abatement before adoption of the environmental document. This process involves identification of noise abatement measures that are reasonable, feasible, and likely to be incorporated into the project, and of noise impacts for which no apparent solution is available.

Traffic noise impacts, as defined in 23 CFR § 772.5, occur when the predicted noise level in the design year approaches or exceeds the NAC specified in 23 CFR § 772, or a predicted noise level substantially exceeds the existing noise level (a substantial noise increase). Under these regulations, an impact could result unrelated to the plan if existing noise levels already exceed the NAC. A substantial increase is defined as when an increase in L_{eq} of 12 dB during the peak hour of traffic noise occurs. For sensitive uses, such as residences, schools, churches, parks, and playgrounds, the NAC for interior and exterior spaces is L_{eq} 57 and 66 dB, respectively, during the peak hour of traffic noise.³³

Aircraft Noise Standards (Title 14 Code of Federal Regulations, Part 36)

The Federal Aviation Administration (FAA) has federal regulatory authority over noise emissions levels by aircraft operated in the United States. These requirements are set forth in Title 14 CFR, Part 36. Part 36 establishes maximum acceptable noise levels for specific aircraft types, taking into account the model year, aircraft weight, and number of engines. Pursuant to the federal Airport Noise and Capacity Act of 1990, the FAA established a schedule for complete transition to Part 36 “Stage 3” standards by year 2000. This transition schedule applies to jet aircraft with a maximum takeoff weight in excess of 75,000 pounds, and thus applies to passenger and cargo airlines, but not to operators of business jets or other general aviation aircraft.³⁴

Airport Noise Compatibility Planning (Title 14 Code of Federal Regulations Part 150)

Part 150 applies to airport noise compatibility planning and provides the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and

³³ Code of Federal Regulations. 2018. *Title 23 Highways*.

³⁴ Code of Federal Regulations. 2018. *Title 14 Aeronautics and Space Parts 1 to 59*.

airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. It provides guidance for measuring noise at airports and surrounding areas and for determining exposure of individuals to noise from the operations of an airport. Part 150 also identifies land uses that are normally compatible with various levels of exposure to noise by individuals. It provides guidance on the preparation and execution of noise compatibility planning and implementation programs.³⁵

Noise Abatement and Control (Title 24 Code of Federal Regulations, Part 51, Subpart B)

The mission of the Department of Housing and Urban Development (HUD) includes fostering “a decent, safe, and sanitary home and suitable living environment for every American.” Accounting for acoustics is intrinsic to this mission, as an environment’s safety and comfort can be compromised by excessive noise. In order to facilitate the creation of suitable living environments, HUD has developed a standard for noise criteria. The basic foundation of the HUD noise program is set out in the noise regulation 24 CFR Part 51 Subpart B, Noise Abatement and Control.

HUD’s noise policy clearly requires noise attenuation measures be provided when proposed projects are located in high noise areas. Within the HUD Noise Assessment Guidelines, potential noise sources are examined for projects located within 15 miles of a military or civilian airport, 1,000 feet from a road, or 3,000 feet from a railroad.

HUD exterior noise regulations state that 65 dBA DNL noise levels or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable. HUD’s regulations do not contain standards for interior noise levels. Rather, a goal of 45 dBA is set forth, and the attenuation requirements are geared toward achieving that goal. It is assumed that, with standard construction, any building will provide sufficient attenuation so that if the exterior level is 65 dBA DNL or less, the interior level will be 45 dBA DNL or less.³⁶

Federal Transit Administration Noise and Vibration Guidance

The Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual to provide guidance on procedures for assessing impacts at different stages of transit project development.³⁷ The report covers both construction and operational noise impacts, and describes

³⁵ Code of Federal Regulations. 2018. *Title 14 Aeronautics and Space, Parts 110 to 199*.

³⁶ Code of Federal Regulation. 2018. *Title 24 Housing and Urban Development, Parts 0 to 199*.

³⁷ Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September.

a range of measures for controlling excessive noise and vibration. The specified noise criteria are an earlier version of the criteria provided by the Federal Railroad Administration's High-Speed Ground Transportation Noise and Vibration Impact Assessment (**Table 3.13-8, Construction Vibration Damage Criteria**). In general, the primary concern regarding vibration relates to potential damage from construction. The guidance document establishes criteria for evaluating the potential for damage for various structural categories from vibration (**Table 3.13-8, Construction Vibration Damage Criteria**).

**Table 3.13-8
Construction Vibration Damage Criteria**

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

Source:

Federal Transit Administration. September 2018. Transit Noise and Vibration Impact Assessment Manual.

Railroad Noise Guidance

The Federal Railroad Administration provides implementation procedures for predicting and assessing noise and vibration impacts of high-speed trains within their *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.³⁸ The document provides three levels of analysis, including a preliminary impact screening, a general assessment, and a detailed analysis, as well as a range of mitigation measures for dealing with adverse noise and vibration impacts. The report also includes noise criteria for potential impacts (**Table 3.13-9, Noise Levels Defining Impact for High-Speed Train Projects**, and **Table 3.13-10, Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria**).

³⁸ Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. Final Report. Washington, DC. September.

**Table 3.13-9
Noise Levels Defining Impact for High-Speed Train Projects**

Existing Noise Exposure* Leq(h) or Ldn (dBA)	Project Noise Impact Exposure* Leq(h) or Ldn (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
<43	< Ambient+10	Ambient + 10 to 15	>Ambient+15	<Ambient+15	Ambient + 15 to 20	>Ambient+20
43	<51.6	51.6–57.6	>57.6	<56.6	56.6–62.6	>62.6
44	<51.8	51.8–58.6	>58.6	<56.8	56.8–63.6	>63.6
45	<52.0	52.0–58.6	>58.6	<57.0	57.0–63.6	>63.6
46	<52.2	52.2–58.7	>58.7	<57.2	57.2–63.7	>63.7
47	<52.5	52.5–58.9	>58.9	<57.5	57.5–63.9	>63.9
48	<52.7	52.7–59.1	>59.1	<57.7	57.7–64.1	>64.1
49	<53.0	53.0–59.3	>59.3	<58.0	58.0–64.3	>64.3
50	<53.4	53.4–59.5	>59.5	<58.4	58.4–64.5	>64.5
51	<53.7	53.7–59.7	>59.7	<58.7	58.7–64.7	>64.7
52	<54.1	54.1–60.0	>60.0	<59.1	59.1–65.0	>65.0
53	<54.4	54.4–60.4	>60.4	<59.4	59.4–65.4	>65.4
54	<54.9	54.9–60.7	>60.7	<59.9	59.9–65.7	>65.7
55	<55.3	55.3–61.1	>61.1	<60.3	60.3–66.1	>66.1
56	<55.7	55.7–61.5	>61.5	<60.7	60.7–66.5	>66.5
57	<56.2	56.2–61.9	>61.9	<61.2	61.2–66.9	>66.9
58	<56.7	56.7–62.3	>62.3	<61.7	61.7–67.3	>67.3
59	<57.2	57.2–62.8	>62.8	<62.2	62.2–67.8	>67.8
60	<57.8	57.8–63.3	>63.3	<62.8	62.8–68.3	>68.3
61	<58.4	58.4–63.8	>63.8	<63.4	63.4–68.8	>68.8
62	<58.9	58.9–64.4	>64.4	<63.9	63.9–69.4	>69.4
63	<59.6	59.6–64.9	>64.9	<64.6	64.6–69.9	>69.9
64	<60.2	60.2–65.5	>65.5	<65.2	65.2–70.5	>70.5
65	<60.8	60.8–66.1	>66.1	<65.8	65.8–71.1	>71.1
66	<61.5	61.5–66.7	>66.7	<66.5	66.5–71.7	>71.7
67	<62.2	62.2–67.4	>67.4	<67.2	67.2–72.4	>72.4
68	<62.9	62.9–68.0	>68.0	<67.9	67.9–73.0	>73.0
69	<63.6	63.6–68.7	>68.7	<68.6	68.6–73.7	>73.7
70	<64.4	64.4–69.4	>69.4	<69.4	69.4–74.4	>74.4
71	<65.0	65.0–70.1	>70.1	<70.0	70.0–75.1	>75.1
72	<65.0	65.0–70.8	>70.8	<70.0	70.0–75.8	>75.8
73	<65.0	65.0–71.6	>71.6	<70.0	70.0–76.6	>76.6
74	<65.0	65.0–72.3	>72.3	<70.0	70.0–77.3	>77.3
75	<65.0	65.0–73.1	>73.1	<70.0	70.0–78.1	>78.1
76	<65.0	65.0–73.9	>73.9	<70.0	70.0–78.9	>78.9

Existing Noise Exposure* Leq(h) or Ldn (dBA)	Project Noise Impact Exposure* Leq(h) or Ldn (dBA)					
	Category 1 or 2 Sites			Category 3 Sites		
	No Impact	Moderate Impact	Severe Impact	No Impact	Moderate Impact	Severe Impact
77	<65.0	65.0–74.7	>74.7	<70.0	70.0–79.7	>79.7
>77	<65.0	65.0–75.0	>75.0	<70.0	70.0–80.0	>80.0

Note:

* L_{dn} is used for land use where nighttime sensitivity is a factor; L_{eq} during the hour of maximum transit noise exposure is used for land use involving only daytime activities.

Source:

Federal Railroad Administration. September 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. Final Report. Table 3-1.

Table 3.13-10
Land Use Categories and Metrics for High-Speed Train Noise Impact Criteria

Land-Use Category	Noise Metric (dBA)	Description of Land-Use Category
1	Outdoor $L_{eq}(h)^*$	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as national historic landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor $L_{eq}(h)^*$	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches, where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, and museums can also be considered to be in this category. Certain historical sites, parks, campgrounds, and recreational facilities are also included.

Note:

* L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.

Source:

Federal Railroad Administration. September 2012. High-Speed Ground Transportation Noise and Vibration Impact Assessment. Final Report. Table 3-2. Washington, DC.

3.13.2.2 State

California Government Code Section 65302

Section 65302 of California Government Code provides a framework for general plans and their content. It requires that the noise element include implementation measures and possible solutions that address

existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards. The noise element shall also identify and appraise noise problems in the community, analyze and quantify current and projected noise levels for (a) highways and freeways; (b) primary arterials and major local streets; (c) passenger and freight online railroad operations and ground rapid transit systems; (d) commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation; (e) local industrial plants, including, but not limited to, railroad classification yards; and (f) other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

Section 65302 also specifies that noise contours be shown for all of the above listed sources and be stated in terms of community noise equivalent level (CNEL) or day-night average level (L_{dn}). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified above. The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.³⁹

California Noise Control Act of 1973

The California Noise Control Act (California Health and Safety Code, Division 28, § 46000 et seq), as found in the California Health and Safety Code, Division 28, § 46000 et seq., declares that excessive noise is a serious hazard to public health and welfare, and establishes the Office of Noise Control with responsibility to set standards for noise exposure in cooperation with local governments or the state legislature.⁴⁰

Airport Noise Standards (Title 21, CCR Section 5000 et seq.)

The State of California has the authority to establish regulations requiring airports to address aircraft noise impacts on land uses in their vicinities. The State of California's Airport Noise Standards, found in Title 21 of the California Code of Regulations, identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within the noise impact boundary, airport proprietors are required to

³⁹ California Legislative Information. *Article 5. Authority for and Scope of General Plans [65300-65303.4], Section 65302.*

⁴⁰ California Legislative Information. *Division 28. Noise Control Act, 46000-46080.*

ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from the California Department of Transportation (Caltrans).⁴¹

Noise Insulation Standards (Health & Safety Code § 17922.6)

California Health and Safety Code § 17922.6 requires noise insulation standards for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation-related noise. For exterior noise, the noise insulation standard is DNL 45 dB in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than DNL 60 dB.⁴²

Freeway Noise Attenuation (Streets and Highways Code, Article 6 and Vehicle Code, Article 2.5)

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB.⁴³ The state pass-by standard for light trucks and passenger cars (less than 4.5 tons gross vehicle rating) is also 80 dB at 15 meters from the centerline.⁴⁴ Additionally, for a motor vehicle weighing more than 5 tons the pass-by standard is 88dB at 15 feet from the centerline of the vehicle.⁴⁵ For new roadway projects, Caltrans employs the NAC, promulgated by Title 40 of the Code of Federal Regulations (CFR), as administered by the FHWA.⁴⁶

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if, as a result of a proposed freeway project, noise levels exceed 52 dBA Leq in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or spaces. If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA Leq. If the noise levels generated from freeway and non-freeway sources exceed 52 dBA Leq prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.⁴⁷

⁴¹ California Code of Regulations. *21 CCR § 5012. Airport Noise Standard.*

⁴² California Legislative Information. *Chapter 2. Rules and Regulations [17920-17928], Section 17922.6.*

⁴³ California Legislative Information. *Vehicle Code, Article 2.5 Noise Limits [27200-27207].*

⁴⁴ Government Publishing Office. *40 CFR 205, Subpart B Medium and Heavy Trucks.*

⁴⁵ California Legislative Information. *Vehicle Code, Article 2.5 Noise Limits [27200-27207].*

⁴⁶ Government Publishing Office. 2019. *Electronic Code of Federal Regulations, §202.20 Standards for highway operations.*

⁴⁷ California Legislative Information. *Article 6. Freeway Noise Attenuation [215.5-216.5], Section 216.*

Section 215.5 of the Streets and Highways Code implements a priority system to determine the need for the installation of noise attenuation barriers (i.e. soundwalls) along freeways and expressways. The highest consideration is given to residential areas developed prior to the opening of the freeway or where alterations have been made to the freeway which resulting in a significant increase in ambient noise levels. Other criteria for determining priorities includes the existing and future sound intensity generated by the freeway, the increase in traffic flow since the freeway originally opened, the cost of constructing a soundwall related to expected noise reduction, and the number of nearby residents included whether they lived there prior to the opening of the freeway.⁴⁸ Pursuant to Section 215.6, a city or county can accelerate the priority of a noise attenuation project by contributing at least 33 percent of the estimated cost of a soundwall project.⁴⁹

California Department of Health Services Land Use Guidelines for Community Noise Exposure

The state has published guidance for locating land uses in areas compatible with the existing noise environment (**Table 3.13-11, Community Noise Exposure**).⁵⁰ For example, it would normally be acceptable for a single-family residence to be located in an area with an existing noise level of 60 dBA CNEL or less.

⁴⁸ California Legislative Information. *Streets and Highways Code, Article 6. Freeway Noise Attenuation [215.5-216.5]*.

⁴⁹ *Ibid.*

⁵⁰ Governor's Office of Planning and Research. 2017. *State of California General Plan Guidelines*.

**Table 3.13-11
Community Noise Exposure**

Land Use Category	Community Noise Exposure (dB, Ldn or CNEL)					
	55	60	65	70	75	80
Residential - Low Density Single-Family, Duplex, Mobile Homes	Light Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Residential - Multi-Family	Light Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Transient Lodging - Motels Hotels	Light Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Schools, Libraries, Churches, Hospitals, Nursing Homes	Light Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Auditoriums, Concert Halls, Amphitheaters	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Sports Arena, Outdoor Spectator Sports	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Dark Gray	Black
Playgrounds, Neighborhood Parks	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray	Black
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray	Black
Office Buildings, Business Commercial and Professional	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray	Black
Industrial, Manufacturing, Utilities, Agriculture	Light Gray	Light Gray	Light Gray	Light Gray	Light Gray	Black

-  Normally Acceptable - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
-  Conditionally Acceptable - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply system or air conditioning will normally suffice.
-  Normally Unacceptable - New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
-  Clearly Unacceptable - New construction or development should generally not be undertaken.

Source: California Office of Planning and Research "General Plan Guidelines, Noise Element Guidelines (Appendix D)", 2017.

Caltrans Guidance

Traffic Noise. Chapter 30 of the *Caltrans Project Development Procedures Manual* offers guidance on highway traffic noise abatement criteria (NAC), corresponding to various land use activity categories.⁵¹ However, the NAC in Chapter 30 has been superseded by the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects* (**Table 3.13-12, Activity Categories and Noise Abatement Criteria**).⁵² Activity categories and related traffic noise impacts are determined based on the actual land use in a given area. The Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* provides additional details on noise analysis procedures, practices, and other useful technical background information related to the analysis and reporting of highway and construction noise impacts and abatement.⁵³ It supplements and expands on concepts and procedures referred to in the *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*.

**Table 3.13-12
Activity Categories and Noise Abatement Criteria**

Activity Category	Hourly A-Weighted Sound Level, Leq(h)*	Evaluation Location	Description of Activities
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B**	67	Exterior	Residential.
C**	67	Exterior	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F			Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G			Undeveloped lands that are not permitted.

Notes: The $L_{eq}(h)$ activity criteria values are for impact determination only and are not design standards for noise abatement measures. All values are A-weighted decibels (dBA). ** Includes undeveloped lands permitted for this activity category.

Source: California Department of Transportation, Division of Environmental Analysis. May 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. Table 1.

⁵¹ California Department of Transportation. *Project Development Procedures Manual*. Chapter 30. May 2019.

⁵² California Department of Transportation, Division of Environmental Analysis. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*. May 2011.

⁵³ California Department of Transportation. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Airport Noise. The Caltrans Division of Aeronautics California Airport Land Use Planning Handbook offers guidance on airport planning and developing compatible land use policies.⁵⁴ It also provides suggested criteria for the CNEL values commonly used as the limit for acceptable residential noise exposure (**Table 3.13-13, Noise Compatibility Criteria**).

**Table 3.13-13
Noise Compatibility Criteria**

CNEL (dB)	Criteria	Suggested Applicability
65	Set by the FAA and other federal agencies as the level above which residential land uses may be incompatible if not acoustically treated. Established by California state regulations as the maximum normally acceptable noise level for residential and certain other land uses at county-designated noise-problem airports.	Generally not appropriate for most new development. May be acceptable in noisy urban locations and/or in hot climates where most buildings are air conditioned.
60	The contour within which California Building Code (Section 1207.11) requires an acoustical analysis of proposed residential structures, other than detached single-family dwellings. Suggested by the California Governor's Office of Planning and Research General Plan Guidelines as the maximum "normally acceptable" noise exposure for residential areas. [Note: Individual noise events will occasionally cause significant interference with residential land use activities, particularly outdoor activities, in quiet suburban/rural communities.]	Suitable for new development around most airports. Particularly appropriate in mild climates where windows are often open.
55	Identified by the EPA as the level below which "undue interference with activity and annoyance" will not occur. [Note: Individual noise events will seldom significantly interfere with residential land use activities (e.g., interference with speech). In urban areas, aircraft contribution to this noise level may be less than that of other noise sources.]	Suitable for airports in quiet, rural locations.

Note:

When setting criteria for a specific airport, other characteristics of the airport and its environs also need to be considered.

Source:

California Department of Transportation. October 2011. California Airport Land Use Planning Handbook. Table 4B.

Construction Noise. Section 14-8.02, Noise Control, of Caltrans standard specifications provides guidance on preventing construction noise impacts. The specification states:

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

If adverse construction noise impacts are anticipated, project plans and specifications must identify abatement measures that would minimize or eliminate adverse construction noise impacts on the community.

⁵⁴ California Department of Transportation. *California Airport Land Use Planning Handbook*. October 2011.

Construction Vibration. The *Transportation and Construction Vibration Guidance Manual* presents a variety of criteria for vibration impacts based on previously completed studies.⁵⁵ Caltrans recommends that extreme care be taken when sustained pile driving occurs within 7.5 meters (25 feet) of any building and 15 to 30 meters (50 to 100 feet) of a historic building or a building in poor condition.

3.13.2.3 Local

To identify, appraise, and remedy noise problems in local communities, each county and city in the SCAG region is required to adopt a noise element as part of its General Plan. Each noise element is required to analyze and quantify current and projected noise levels associated with local noise sources, including, but not limited to, highways and freeways, primary arterials and major local streets, rail operations, air traffic associated with the airports, local industrial plants, and other ground stationary sources that contribute to the community noise environment. Beyond statutory requirements, local jurisdictions are free to adopt their own goals and policies in their noise elements, although most jurisdictions have chosen to adopt noise/land use compatibility guidelines that are similar to those recommended by the state. The overlapping DNL ranges indicate that local conditions (existing noise levels and community attitudes toward dominant noise sources) should be considered in evaluating land use compatibility at specific locations.

In addition to regulating noise through noise element policies, local jurisdictions regulate noise through enforcement of local ordinance standards. These standards generally relate to noisy activities (e.g., use of loudspeakers and construction) and stationary noise sources and facilities (e.g., air conditioning units and industrial activities). Three cities in the SCAG region, Los Angeles, Long Beach, and Port Hueneme, operate port facilities. Noise from the Ports of Los Angeles, Long Beach, and Hueneme are regulated by the noise ordinances and noise elements of the Los Angeles, Long Beach, and Port Hueneme General Plans.

In terms of airport noise, airport operators have addressed local community noise concerns through a variety of methods changes including runway use and flight routing changes, aircraft operational procedure changes, and engine run-up restrictions. These actions generally are subject to approval by the FAA, which has the authority and responsibility to control aircraft noise sources, implement and enforce flight operational procedures, and manage the air traffic control system. Airport operators also consider limitations on airport use, but such restrictions can be overridden by the Federal Aviation Administration if it is determined that they unjustly discriminate against any user, impede the federal interest in safety and management of the air navigation system, or unreasonably interfere with interstate commerce. In

⁵⁵ California Department of Transportation. 2013. *Transportation and Construction Vibration Guidance Manual*. Sacramento, CA. September.

addition airport operators have addressed community concerns by retrofitting homes under flight paths to provide additional noise insulation.

Some local jurisdictions regulate vibration through enforcement of local ordinance standards. These standards generally relate to preventing perceptible vibration from being generated past the property line of the source location.

3.13.3 ENVIRONMENTAL IMPACTS

3.13.3.1 Thresholds of Significance

The impacts related to noise from the Plan would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation or excessive groundborne vibration or groundborne noise levels;
- For a project within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

3.13.3.2 Methodology

This section evaluates the potential impacts of the proposed Connect SoCal Plan on ambient noise levels, identifies mitigation measures for the impacts, and evaluates the residual impacts in accordance with Appendix G of the 2019 State California Environmental Quality Act (CEQA) Guidelines. Noise within the SCAG region was evaluated at the programmatic level of detail, in relation to federal noise and vibration impacts guidelines; *State of California General Plan Guidelines for Noise Elements*; California Department of Transportation guidance documents; the general plans of the six counties and 191 cities within the SCAG region; and a review of related literature germane to the SCAG region, as well as a review of Connect SoCal.^{56,57,58,59,60,61,62,63,64,65,66,67}

⁵⁶ Federal Interagency Committee on Noise. 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. August.

⁵⁷ Cowan, James P. 1993. *Handbook of Environmental Acoustics*.

Ambient noise levels in the SCAG region vary widely as a function of the dramatic physical environment, land use, and density of people. Noise levels for various areas are identified according to the use of the area. Maximum allowable noise levels associated with various sensitive land uses are provided. Exposure of people to noise levels and ground borne vibration from transportation and transit infrastructure varies in relation to noise level at the source, density of the source, distance from the source, and sound modulating or attenuating structures between the source and the receptor.

The methodology for determining the significance of noise and vibration impacts compares the existing conditions to the conditions as a result of implementing the transportation projects and growth under the Plan.⁶⁸

Permanent increases in operational noise associated with highway traffic is dependent on several variables:

- Traffic volume (the greater the number of vehicles passing through an area within a specified period result in greater noise)
- Vehicle speed (greater speed results in greater noise from tire and aerodynamic noise)

⁵⁸ Nelson, J.T., and H.J. Saurenman. 1983. *State-of-the-Art Review: Prediction and Control of Ground-Borne Noise and Vibration from Rail Transit Trains*. U.S. Department of Transportation, Urban Mass Transportation Administration, Report Number UMTA-MA-06-0049-83-4, DOT-TSC-UMTA-83-3.

⁵⁹ Governor's Office of Planning and Research. 2017. *State of California 2017 General Plan Guidelines*.

⁶⁰ California Department of Transportation. 2009. *Project Development Procedures Manual*. Chapter 30.

⁶¹ California Department of Transportation, Division of Environmental Analysis. 2011. *Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects*.

⁶² California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

⁶³ California Department of Transportation, Division of Environmental Analysis. 2013. *Transportation and Construction Vibration Guidance Manual*.

⁶⁴ Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*.

⁶⁵ California Department of Transportation, Division of Aeronautics. 2011. *California Airport Land Use Planning Handbook*.

⁶⁶ U.S. Department of Transportation, Federal Transit Administration. 2006. *Transit Noise and Vibration Assessment*.

⁶⁷ U.S. Department of Transportation, Federal Highway Administration. 2006. *FHWA Highway Construction Noise Handbook*.

⁶⁸ Note that ambient noise from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions. *See* Cal. Building Industry Assn. v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.); *see also* Cal. Building Industry Assn. v. Bay Area Air Quality Management District (2016) 2 Cal.App.5th 1067.

- Vehicle types such as cars, trucks, and motorcycles (different engine and exhaust combinations, different tires, and different aerodynamic profiles result in different noise levels)
- Location of the roadway with respect to sensitive receptors (distance and intervening objects or topography will reduce noise levels).

The noise impacts analysis was based on the Project List (See **Appendix 2.0, Connect SoCal Project List**) located throughout the six counties and 38,000 square miles of the SCAG region.⁶⁹ Project types range from projects with substantial ground disturbance such as rail projects, mixed flow lane projects, and grade separation projects, to operations and maintenance projects with minimal ground disturbance such as traffic signal synchronization or lane-restriping projects.⁷⁰

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.13.3.3 Impacts and Mitigation Measures

Impact NOISE-1 Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of transportation projects and development projects anticipated to occur under the Plan would likely result in exposure of persons to or generation of noise levels in excess of standards

⁶⁹ SCAG. 2019. *Connect SoCal Transportation System Project List Technical Report*. November.

⁷⁰ Note that as discussed in **Section 3.15.3, Public Services – Schools**, CEQA review of school construction generally does require an evaluation of the effects of existing air quality exposure on pupils, and to the extent the health risk is unacceptable, the school would not be built. CEQA also provides limited protection and requires analysis of impacts of the existing environment on certain housing development projects exercising exemptions under Pub. Res. Code § 21096.

established in the local general plan or noise ordinance, or applicable standards of other agencies, constituting a significant impact. Grading and construction activities would generate temporary increases in noise levels, and operational activities would generate permanent increases in noise levels in excess of standards established in the local general plan or noise ordinance, constituting a significant impact, requiring the consideration of mitigation measures.

As noted above, noise impacts are experienced locally and cannot be quantified at a regional level. Land uses support various noise environments depending on multiple factors. For example, urban environments tend to be louder than suburban environments due to denser, multi-use land use patterns. Urban environments also typically support higher volumes of traffic as well as other transportation modes that generate sound such as trains, light rail, and buses. Suburban environments, where land uses are often more segregated, have more moderate noise levels. Agricultural areas also have a unique noise environment as compared to urban and suburban environments. Agricultural operations require the use of heavy-duty equipment (e.g., mechanized plows, tractors) that produce high noise levels. However, because agricultural areas are sparsely populated, noise generally does not have the same adverse effect on surrounding land uses and may be protected by right-to-farm regulations or other local land use policies.

Construction. Impacts to sensitive receptors resulting from the construction of transportation projects as well as the implementation of land use strategies would depend on several factors, such as the type of project, adjacent land use, and duration and intensity of the construction activity. Construction noise levels would fluctuate depending on how the construction is phased, the equipment mix, the distance between the construction and the nearest sensitive receptor, and the presence of intervening objects. Furthermore, anticipated development to accommodate the forecast population, household, and employment would take a variety of forms, with a substantial number (60 percent of housing units and 73 percent of jobs) focused in Growth Priority Areas including in and around high-quality transit areas (HQTAs), as well as development in existing urbanized areas, and opportunity areas. Because development would be focused in HQTAs and urbanized areas, residents in and around those areas would be subject to increased frequency of construction noise.

Operations. Impacts to sensitive receptors resulting from the operation of transportation projects as well as increases in traffic due to anticipated development projects under the Plan would depend on several factors, such as the type of project and adjacent land use. Operational noise levels would fluctuate depending on traffic volume, vehicle speed, vehicle mix, location and distance of the roadway with respect to sensitive receptors, and the presence of intervening objects. A doubling of traffic generally corresponds to a 3 dB increase in noise level, which is only just perceptible to the human ear. Most major facilities do not have the capacity to allow a doubling of traffic and therefore this increase is generally not

expected.

Similar to construction impacts, anticipated development to accommodate the forecast population, household, and employment growth would take a variety of forms, with a substantial fraction focused in and around HQTAs, existing urbanized areas, and opportunity areas as reflected under Connect SoCal's land use strategies. As traffic volumes increase, the duration of the peak hour noise levels extend as well. Operation of transportation and transit projects in these HQTAs, existing urbanized areas, and opportunity areas would have the potential to increase noise level in excess of standards established in county and city general plans and noise ordinances.

Heavy rail would increase the number of passenger and freight trains in the region. Because of the number of existing passenger and freight trains that use the existing heavy rail tracks, additional trains are not expected to increase daily noise (CNEL) along any given track by more than 3 dB relative to baseline conditions. Light rail improvements will include increasing frequency on and making improvements to existing corridors and adding new corridors. In general, the proposed transit improvements along existing corridors will occur in developed urban areas where noise levels are already high from existing sources. In areas that do not currently have light rail operations, implementation of the Plan could increase noise levels above 65 dB CNEL and increase daily noise (CNEL) by more than 3 dB relative to baseline conditions. Increases in operational mobile source noise from the projected land use pattern and planned transportation improvements would result in new vehicles trips on existing roadways generating increases in noise. In locations where noise would exceed the CNEL threshold of 65 dB following the implementation of the Plan, a significant noise impact would occur.

Land use strategies in the Plan would encourage development in HQTA's and other urbanized areas. Urban areas experience noise from a number of sources associated with living in proximity to other people and among different land uses. Typical community noise sources include small mechanical devices (e.g., lawn mowers, leaf blowers), parks and playgrounds, restaurants and bars, commercial uses, events, and industrial plants. Traffic and other transportation-related noise is also a dominant noise source in urban areas. Light rails, passenger trains, and other forms of public transit generate noise from the contact of wheels on railways as well as loud bells that signal to cars, cyclists, and pedestrians of their arrival. Implementation of the Plan is likely to increase the amount of noise experienced in HQTAs because of the increased density in these areas as well as from improved transportation infrastructure.

In suburban and rural areas, noise sources are fewer and the addition of new stationary or mobile noise sources could result in an increase in ambient noise. As the Plan is expected to result in the conversion of 41,546 greenfield acres, there is the potential for increased ambient noise in suburban and rural areas.

Because of the nature of noise impacts (noise dissipates with distance from the source), new transportation operations may cause noise impacts, and those impacts may exceed applicable noise thresholds for determining significance within a localized area, but those impacts cannot be quantified at a regional level. Therefore, implementation of transportation projects and land use strategies in Connect SoCal would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, which constitutes a significant impact requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM-NOISE-1: SCAG shall coordinate with CTCs and member agencies as part of SCAG's outreach and technical assistance to local governments to encourage transportation projects and projects involving residential and commercial land uses to mitigate noise and vibration or be developed in areas that are normally acceptable or conditionally acceptable, consistent with applicable guidelines (i.e., OPR, Caltrans, etc.).

Project Level Mitigation Measures

PMM NOISE-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Install temporary noise barriers during construction.
- b. Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.
- c. Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance
- d. Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off-hours), along with permitted

construction days and hours, complaint procedures, and who to notify in the event of a problem.

- e. Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.
- f. Designate an on-site construction complaint and enforcement manager for the project.
- g. Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.
- h. Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- i. Where feasible, design projects so that they are depressed below the grade of the existing noise-sensitive receptor, creating an effective barrier between the roadway and sensitive receptors.
- j. Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction.
- k. Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications

require re-pavement, or normal reconstruction of roadways where re-pavement is planned

- l. Projects that require pile driving or other construction noise above 90 dBA in proximity to sensitive receptors, should reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA; a set of site-specific noise attenuation measures should be completed under the supervision of a qualified acoustical consultant.
- m. Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses;
- n. Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.
- o. Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction.
- p. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.
- q. Use of portable barriers in the vicinity of sensitive receptors during construction.
- r. Implement noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings (for instance by the use of sound blankets), and implement if such measures are feasible and would noticeably reduce noise impacts.

- s. Monitor the effectiveness of noise attenuation measures by taking noise measurements.
- t. Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities.
- u. Construct sound reducing barriers between noise sources and noise-sensitive land uses.
- v. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.
- w. Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures.
- x. Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including the inability to quantify noise impacts at the regional level, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to substantial temporary or permanent increases in ambient noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies, to be significant and unavoidable even with implementation of mitigation.

Impact NOISE-2 Generation of excessive groundborne vibration or groundborne noise levels.*Significant and Unavoidable Impact – Mitigation Required.*

Implementation of the transportation projects and the construction of land use development projects anticipated to occur under the Plan would generate varying levels of vibration and groundborne noise. As noted above, urban environments tend to be louder than suburban environments due to denser, multi-use land use patterns. Urban environments also typically support higher volumes of traffic as well as other transportation modes that generate groundborne vibration and sound such as trains, light rail, and buses. Suburban environments, where land uses are often more segregated, have more moderate noise levels. Agricultural areas also have a unique noise environment as compared to urban and suburban environments. Agricultural operations require the use of heavy-duty equipment (e.g., mechanized plows, tractors) that produce high noise levels. However, because agricultural areas are sparsely populated, noise generally does not have the same adverse effect on surrounding land uses and may be protected by right-to-farm regulations or other local land use policies.

Traffic, especially heavy truck traffic, can be a source of vibration and groundborne noise. Rail operations, including freight and light rail trains, can also be a source of vibration. **Table 3.13-14** contains reference to vibration levels associated with heavy-duty equipment.

Construction. Transportation projects and development anticipated to occur under the Plan could result in temporary noise and vibration impacts from grading, paving, clearing, landscaping, staging, excavation, earthmoving, and other related construction activities. Such construction activities would require the use of heavy construction equipment (e.g., pile drivers, back hoes, jackhammers) and vehicles that generate significant amounts of noise and vibration in the immediate vicinity of the source, often resulting in noise and vibration levels substantially higher than existing conditions. **Table 3.13-14, Construction Equipment Source Noise Levels**, summarizes typical construction noise levels for various construction activities.

**Table 3.13-14
Construction Equipment Source Noise Levels**

Equipment	Levels in dB(A) at 50 feet
Front Loader	73-86
Trucks	82-95
Cranes (Moveable)	75-88
Cranes (Derrick)	86-89
Vibrator	68-82
Saws	77-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-85
Pile Driving (Peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88

Source: US Environmental Protection Agency, Noise From Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

Noise impacts from construction activities depend on several factors including the types of surrounding land uses, duration and type of construction activities, distance between source and receptor, and the presence or absence of barriers between source and receptor. Construction impacts are considered temporary and localized in nature, as they are limited to the time during which the project is being constructed and confined to areas adjacent to the construction site. After construction is completed, all construction equipment and vehicles are removed. In urban areas, where most of the development takes place, construction is a frequent occurrence, and although construction can be a nuisance, it may not result in a significant impact. In rural and suburban areas, where ambient noise levels are lower, it may rise to the level of an impact. However, land uses are also further apart, thereby reducing the potential for conflicts. Further, many local jurisdictions have policies specifically dealing with construction noise including restrictions on hauling and hours of construction.

Transportation projects and anticipated development projects under the Plan have the potential to result in construction-related impacts that increase noise levels above the noise thresholds identified in **Table 3.13-14** and substantially increase noise levels in locations currently in exceedance of a CNEL threshold;

as well as the potential to result in excessive levels of vibration and groundborne noise from increased traffic and congestion, at the local level (see **Section 3.17, Transportation, Traffic and Safety**, for further discussion of how the Plan affects the transportation network). Although construction noise is short-term for individual project sites, it can nonetheless result in substantial increases in ambient noise levels in the immediate vicinity of each construction site. Construction activities would occur in accordance with applicable city or county standards. Most such standards address acceptable hours of operation, while some standards address allowable noise levels. If sensitive receptors are in the immediate vicinity of construction activities, they could be temporarily adversely affected. Land use strategies which would encourage more dense development near a sensitive receptor would result in increased temporary construction noise for those receptors. Construction activity, and associated groundborne vibration or noise levels, is a routine part of the urban environment. While construction of individual projects is considered to have a less than significant impact, construction activities are likely to be ongoing throughout the region and therefore impacts are considered significant.

As previously discussed, there are sensitive receptors such as residences, schools, libraries, churches, hospitals, nursing homes, natural areas, and parks in the SCAG region that could be affected by construction or operation of Plan projects. As such, impacts are considered significant.

Construction-related vibration has the potential to damage structures and be a source of annoyance to individuals who live or work near these construction activities. Pile drivers can generate vibrations in excess of 0.5 PPV at a distance of 25 feet, see **Table 3.13-15, Construction Equipment Vibration Levels**, which can result in damage to reinforced concrete. Vibration levels generated by pile driving vary depending on soil conditions, construction methods, and equipment used. Depending on the proximity of existing structures to the pile driving, the structural condition of the existing structures, and the methods of construction used, vibration levels caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to damage existing structures. A vibration analysis completed by Caltrans indicated that “extreme care must be taken when sustained pile driving occurs within 7.5 m (25 ft) of any building, and 15–30 m (50–100 ft) of a historical building or building in poor condition.”⁷¹

⁷¹ California Department of Transportation. 2002. *Transportation Related Earthborne Vibrations*. Available online at: http://www.vibrationdata.com/tutorials_alt/caltrans_earth.pdf, accessed September 30, 2019.

Tables 3.13-15
Construction Equipment Vibration Levels

Equipment		PPV at 25 feet
Pile Driver (impact)	Upper Range	1.518
	Typical	0.644
Pile Driver (Sonic)	Upper Range	0.734
	Typical	0.170
Vibratory Roller		0.210
Clam Shovel		0.202
Hydro Mill	In Soil	0.008
	In Rock	0.017
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source:

Adapted from: Federal Transit Administration. September 2018. Transit Noise and Vibration Impact Assessment Manual. Washington, DC

Operation. Normal operation of residential, office and commercial, and mixed-use buildings are unlikely to generate substantial vibration or groundborne noise. Industrial and public buildings could generate vibration and groundborne noise during operations that involve the use of machinery or other vibration-inducing equipment. However, the amount of vibration produced is not anticipated to be excessive, as workplace vibration is typically addressed from an occupational health and safety perspective. As with noise, vibration dissipates with distance from the source, therefore surrounding land uses would unlikely be affected. **Table 3.13-15** indicates that, even at close distances, vibration levels for most heavy-duty equipment are below 0.1 inches per second.

Traffic, especially heavy truck traffic, can be a source of vibration and groundborne noise. However, such vibration is rarely high enough to cause annoyance to surrounding uses, as vehicles are supported on spring suspensions and pneumatic tires, which reduce the amount of vibration and groundborne noise generated from vehicular traffic. Rail operations, including freight and light rail trains, can also be a source of vibration. Under the Plan there would be increases in both heavy rail and light rail. Existing and future growth and development near existing or planned light rail or heavy rail lines could result in excessive levels of vibration and groundborne noise as compared to existing conditions.

Impacts associated with transportation strategies such as complete streets and TSM would be minimal and they would generally improve overall traffic flow and would not be expected to increase noise or

vibration. Land use strategies would encourage compact development which would encourage more people in urbanized areas where vibration impacts would occur. Operation-related vibration would be a source of annoyance to individuals who live or work near new infrastructure associated with heavy duty truck and bus traffic along roadways and train traffic along rail lines. The amplitude of vibration generated by heavy trucks, buses, or trains has the potential to result in structural or cosmetic damage if the route is adjacent or in close proximity to fragile older buildings.

Based on vibration measurements throughout California, Caltrans determined the maximum traffic vibration levels from truck traffic drop below the threshold of perception at a distance of 42.5 meters (140 feet) from the source and that vibration level from truck traffic are unlikely to cause architectural damage to fragile historic buildings unless the building was adjacent or within 5 meters or 17 feet from the source.⁷² Therefore, it is anticipated that operational activities would result in a significant impact related to the exposure of people to excess groundborne vibration or groundborne noise levels.

Furthermore, Caltrans measured a peak train vibration level of 0.36 in/sec PPV at 3 meters (10 feet).⁷³ A vibration level of 0.36 in/sec PPV at 3 meters or 10 feet would fall below the threshold of perception at a distance of 80 meters (263 feet) from the source. Therefore, it is anticipated that operational activities would result in a significant impact related to the exposure of people in excess groundborne vibration or groundborne noise levels.

As a result, implementation Connect SoCal would result in the exposure of persons to generation of excessive groundborne vibration or groundborne noise levels, which constitutes a significant impact requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM NOISE-1**.

⁷² Ibid.

⁷³ Ibid.

Project Level Mitigation Measures

See PMM-NOISE-1.

PMM NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations.
- b. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds.
- c. For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.
- d. Restrict construction activities to permitted hours in accordance with local jurisdiction regulation.
- e. Properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silences, wraps).
- f. Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to excessive groundborne vibration or groundborne noise levels to be significant and unavoidable even with implementation of mitigation.

Impact NOI-3 For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Significant and Unavoidable – Mitigation Required.

Implementation of transportation projects and development anticipated to occur under the Plan may result in exposure of persons to or generation of significant noise levels from aircrafts and other airport activity (including ground transportation) constituting a significant impact.

The SCAG region contains an expansive multiple airport system with seven commercial airports, seven government/military fields, and more than 30 reliever and general aviation airports. California's Airport Noise Standards identify a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Airport proprietors are required to ensure all land uses are compatible with the aircraft noise environment or secure a variance from the California Department of Transportation.

Note that SCAG has no authority over airport development. Rather SCAG includes aviation planning information within each RTP/SCS in order to facilitate ground transportation access planning. Development authority of airports rests with each airport (i.e. airport sponsors retain authority over planning and development decisions) and the Federal Aviation Administration (FAA), which makes airport funding decisions based on national priorities. Moreover, airports are not required to incorporate MPO planning recommendations into their capital plans, and FAA funding decisions are not necessarily tied to MPO RTP recommendations.

Despite some downturns, air passenger traffic in the region has increased at a steady rate over the past two decades, with a particularly high growth rate in recent years. In 2017, the six-county SCAG region was one of the most active and fastest growing regions for air passenger traffic in the United States. In 2017, at 110.17 million annual passengers, SCAG was second only to the New York/New Jersey region for air passenger traffic. The SCAG region saw a passenger growth rate of 5.12 percent from 2012 to 2017.⁷⁴

As noted above, SCAG does not have any regulatory, developmental, operational, or planning authority over the airports. Rather, SCAG is primarily a regional surface transportation planning agency that maintains a list of airport ground access projects and a consultative relationship with the airports. Therefore, SCAG is focused on air and passenger cargo activity from the perspective of how the traffic coming and going from the airports affects the region's roads, highways, and transit system. SCAG also prepares an Aviation Technical Report to the Plan.

The Connect SoCal Aviation Technical Report references a comprehensive review of various forecasts for aviation growth in the SCAG region:⁷⁵

- Regional air passenger transportation is anticipated to grow by an average of 2.1% annually; from 110.17 MAP in 2017 to 197.1 MAP in 2045
- Regional air cargo transportation is anticipated to grow by an average of 3.3% annually, from 3.14 million in 2017 to 7.77 million tons in 2045
- Total regional aircraft operations are not anticipated to grow as fast as passenger and/or cargo growth. Regional aircraft operations are anticipated to grow by an average of 0.74% annually, from 3.7 million operations in 2017 to 4.58 million operations in 2045

As mentioned above, LAX is the only regional large-hub primary airport, and the operational data listed for each regional airport indicates most regional airport operations are associated with LAX. Recent statistics show that while passenger traffic has increased by approximately 1% in 2019, aircraft operations have reduced by approximately 2%. The LAWA department of the City of Los Angeles is currently constructing an Automated People Mover (APM) electric train to reduce ground traffic congestion, accommodate future operational growth, and provide a direct rail connection to Los Angeles and adjacent cities.⁷⁶ The APM is planned to open for passenger services in 2023, and APM operation will reduce ground traffic and could incrementally reduce associated ground traffic noise.

⁷⁴ Connect SoCal. 2019. *Aviation and Airport Ground Access Technical Report*.

⁷⁵ Ibid.

⁷⁶ <https://www.lawa.org/en/connectinglax/automated-people-mover; 8/30/2019>

The following information was obtained from the Airport Noise Overview Technical Report prepared as part of the PEIR. The full report is provided in **Appendix 3.13**. Region-wide growth between 2017 to mid-year 2019 is estimated to be up to approximately 2% for air passengers and less than 0.5% for aircraft operations. For the purposes of assessing regional noise impacts from aviation, the above bulleted forecasts reasonably approximate the 2019 to 2045 time period.

As noted above, the aircraft operations growth forecast is significantly smaller than the air passenger and air cargo percentages. This is anticipated because newer aircraft carry a higher volume of passengers and carriers are running at a higher load factor than in the past. When the airlines carry more passengers per flight, the flights are more profitable and fewer flights are needed to carry the same volume of passengers to a specific location. This allows the airlines to schedule some of these flights to other locations and/or reduce their airport operations.

The noise from airports is directly related to the number of aircraft operations as well as the size, aircraft type, and number and type of engines, with additional contributions from other airport activities and ground transportation (noise from ground transportation is as part of the overall transportation projects in the Plan).

In general, if the mix of aircraft remains constant, the aviation noise contours grow larger or shrink smaller as the operations increase or decrease. Noise levels do not increase algebraically as the noise sources increase but increase in a logarithmic fashion. For example, two noise sources each emitting a noise level of 60 dB add together to produce noise of 63 dB, not 120 dB. Doubling the number of noise sources increases the overall noise level by 3 dB and doubling the number of aircraft operations would also increase the overall airport noise level by 3 dB and expand the area inside the noise contours, assuming all other factors such as aircraft type, engines, flight tracks, etc., remain the same.

Considering the growth in airport operations from 3.7 million to 4.58 million, if all aircraft types and operational characteristics were to remain equal, the forecasted increase in noise would equate to 0.9 decibels. However, this average increase in aircraft operations would not occur at all airports, as different airports will experience different changes and noise contours may grow or shrink independently. Airport noise levels are expected to increase at the busiest airports such as LAX, ONT, PSP and BUR, while noise levels at airports with noise and/or operations constraints would not be expected to increase as much. The details needed to model airport noise level changes over the forecast period are not available to provide specific changes. Additionally, airports across the nation have received an increase in noise complaints since implementation in 2015 of FAA's *NextGen* program to modernize the nation's air

transportation system.⁷⁷ One aspect of *NextGen* utilizes satellite navigation that precisely direct aircraft flight tracks for more efficient performance, reducing fuel costs and associated carbon emissions, and to increase overall flight capacity.⁷⁸ Aircraft flight track changes in some cases moved flights over areas that previously did not experience overflights or concentrated aircraft over areas that already experienced overflights, and airport noise complaints increased.⁷⁹ As the FAA and airports such as LAX and BUR⁸⁰ wrestle with the contending issues of an efficient airspace and noise complaints, it is unclear whether aircraft flight tracks will remain constant, further complicating the details needed for forecasting airport noise level changes over the lifetime of the Plan.

Technological changes also play a role in understanding airport noise impacts. The aircraft industry continues to develop aircraft with higher capacity, lower fuel consumption, and lower carbon emissions, but as it does, the industry must also comply with FAA and international aircraft compliance requirements regarding noise. Aircraft noise is classified into various Stages, with current Stage 3 and 4 aircraft operating quieter than previously used Stage 2 aircraft. Stage 3 aircraft measure between 7 and 20 EPNdB (Effective Perceived Noise Level, decibels) quieter than Stage 2 aircraft, while Stage 4 aircraft are an additional 10 EPNdB quieter than Stage 3 aircraft. Stage 2 aircraft no longer fly in the U.S., with some exceptions for lighter weight aircraft, taking the noisiest aircraft out of service. As airlines replace older and noisier Stage 3 aircraft with quieter Stage 4 aircraft, the aircraft fleet becomes quieter. As a recent example, American Airlines retired the last of its Stage 3 compliant McDonnell Douglas MD-80 aircraft in September 2019 and looks to replace the aircraft with more fuel-efficient aircraft with lower maintenance costs.⁸¹ Even as newer aircraft have more powerful engines, the requirements to comply with the quieter Stage 4 noise levels will result in a quieter fleet overall. In 2018, the FAA adopted regulations requiring newly designed aircraft to meet even quieter Stage 5 requirements with a reduction of 7 EPNdB,⁸² and as these aircraft come into service (and some aircraft currently in operation already meet this standard), this will lower the aircraft noise level further.

It is possible that in the long term, as aircraft operations grow over the next 25 years, the lower noise levels of aircraft will offset the increased operations to maintain or even reduce the aircraft noise contour

⁷⁷ <https://www.faa.gov/nextgen/>; 9/20/2019

⁷⁸ https://www.faa.gov/nextgen/how_nextgen_works/; 9/20/2019

⁷⁹ https://www.washingtonpost.com/local/trafficandcommuting/advances-in-airport-technology-mean-sleepless-nights-for-some/2016/03/04/7b8eb936-e098-11e5-9c36-e1902f6b6571_story.html; 9/20/2019

⁸⁰ <https://www.latimes.com/california/story/2019-09-16/hollywood-burbank-airport-noise-rattles-residents-who-want-flights-spread-over-wider-area>; 9/20/2019

⁸¹ <https://www.nbcsandiego.com/news/california/American-Airlines-Retires-the-Last-of-Its-Iconic-MD-80-Jets-560489551.html>; 9/20/2019

⁸² Federal Aviation Administration, Stage 5 Airplane Noise Standards, published October 4, 2017. Accessible: <https://www.federalregister.gov/documents/2017/10/04/2017-21092/stage-5-airplane-noise-standards>

footprints around airports, as this has been the general trend in aviation noise over the previous 40 years. It may also be possible that the growth in operations at some airports may overtake the trend toward a quieter aircraft fleet and cause aircraft noise and the noise contours to increase.

In addition, most major public airports have an airport land use plan that provides guidance on safety and land use in adjacent areas. State law mandates the creation of an Airport Land Use Compatibility Plan. The Airport Land Use Commissions (ALUC) coordinates planning for areas that surround public use airports. The ALUC is tasked with preparing airport land use plans to protect the public by minimizing their exposure to excessive noise and safety hazards within these areas.

Furthermore, the development of Airport Land Use Plans are guided by three federal regulations and two state codes:

- Title 14 Code of Federal Regulations, Part 36, establishes maximum acceptable noise levels for specific aircraft types.
- Title 14 Code of Federal Regulations, Part 150, provides guidance for measuring noise at airports and surrounding areas, determining exposure of individuals to noise from the operations of an airport, identifying land uses that are normally compatible, and preparing and executing noise compatibility planning and implementation programs.
- As part of Title 24 Code of Federal Regulations, Part 51, Subpart B, the HUD exterior noise regulations state that noise levels of 65 dBA DNL or less are acceptable for residential land uses and noise levels exceeding 75 dBA DNL are unacceptable.
- California Government Code Section 65302 specifies that noise contours be shown for all facilities related to airport operations and be stated in terms of CNEL or Ldn. These noise contours are intended to guide how patterns of land uses are established in the land use element in order to minimize the exposure of community residents to excessive noise.
- Title 21, California Code of Regulations Section 5000 et seq., identifies a noise exposure level of CNEL 65 dB as the noise impact boundary around airports. Within this noise impact boundary, airport proprietors are required to ensure that all land uses are compatible with the aircraft noise environment or the airport proprietor must secure a variance from Caltrans.

Additionally, each county and city in the SCAG region is required to adopt safety and noise elements as part of their General Plans. It is expected that local jurisdictions would conduct environmental review for projects that are within or near sensitive airport zones, and are expected to implement best management

practices and mitigation measures on a project-by-project basis, to minimize potential noise risks associated with air traffic.

Nevertheless, due to the regional scale of aviation operations and because the noise profiles of future aircraft types and their engines are unknown, as is the timeframe for phasing out older aircraft and replacing them with newer aircraft, impacts cannot be accurately determined at this time. Conservatively it is assumed sensitive receptors may experience greater noise impacts than at present in the vicinity of airports resulting in significant impacts.

Mitigation Measures

SCAG Mitigation Measures

See **SMM NOISE-1**.

Project Level Mitigation Measures

See **PMM NOISE-1**.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, the unknown noise profiles of future aircraft types and their engines and the timeframe for phasing out older aircraft and replacing them with newer aircraft, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to aviation noise to be significant and unavoidable even with implementation of mitigation.

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3.14 POPULATION AND HOUSING

This section of the Program Environmental Impact Report (PEIR) describes the existing land use characteristics within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect population and housing, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.14.1 ENVIRONMENTAL SETTING

3.14.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for population, housing, and employment are provided.

Employment: Paid employment consists of full- and part-time employees, including salaried officers and executives of corporations, who were on the payroll in the pay period. Included are employees on sick leave, holidays, and vacations; not included are proprietors and partners of unincorporated businesses.

Household: A household consists of all the people who occupy a housing unit. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household.

Householder: The householder refers to the person (or one of the people) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly the householder may be either party. The person designated as the householder is the “reference person” to whom the relationship of all other household members, if any, is recorded.

Housing: As used in this analysis, *housing* is data available from the U.S. Census for the SCAG region for the period of 2000 through 2035. Housing is a general term used to describe multiple housing units.

Housing Unit: A house, an apartment or other group of rooms, or a single room are regarded as housing units when occupied or intended for occupancy as separate living quarters. Different jurisdictions have slightly different definitions of what constitutes a housing unit.

Population: As used in this analysis, *population* is data available from the U.S. Census for the SCAG region for the period of 1900 through 2010, with population projections available from SCAG in 2019 for the projected population growth through 2045.

Regional Housing Needs Assessment (RHNA): As discussed in more detail in the Regulatory Background, the RHNA quantifies the need for housing within each jurisdiction during specified planning periods. The RHNA is mandated by state housing law as part of the periodic process of updating local housing elements of the General Plan. The California Department of Housing and Community Development (HCD) provides a regional determination of housing need, and then SCAG allocates this housing need to jurisdictions in the region. The intention of the RHNA process is to create a better balance of jobs and housing in communities, ensure the availability of decent affordable housing for all income groups, and achieve sustainability through long-term strategic land use planning.

3.14.1.2. Existing Population, Housing, and Employment

Population

The six-county SCAG region encompasses 38,000 square miles in area (almost 25 million acres) and is home to approximately 19 million people as of 2019, making it the second most populous metropolitan region in the U.S.¹ Approximately 6 percent of the national population lives in the SCAG region, and for over half a century the region has been home to approximately half the population of California. At the turn of the 20th Century, the SCAG region comprised less than 1 percent of the U.S. population and less than 30 percent of the state population. By 1960, the region grew to represent nearly 5 percent of the national population.² Historically, population within the SCAG region was heavily influenced by net migration, or the difference between people coming into an area (immigrating) and the people leaving an area (emigrating) as opposed to the increase of births over deaths. However, since about 2000, net migration has slowed and has resulted in slower population growth across the SCAG region. The population growth within the SCAG region is similar to that of California and the U.S. as a whole.

As shown below in **Table 3.14-1, Population Growth in the SCAG Region (2000-2019 for Incorporated Cities and Unincorporated Areas)**, existing populations have increased in every county within the SCAG region from 2000 to 2019. However, while increasing in population, the SCAG region's overall growth rate is slowing. The change is largely attributed to four key factors: (1) lower birth rates (fewer children),

¹ American FactFinder. 2017. *2017 Population Estimates*. Available online at: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>, accessed January 29, 2018.

² Southern California Association of Governments (SCAG). 2016. *2016 RTP/SCS Program Draft Environmental Impact Report*.

(2) lower immigration rates (fewer immigrants), (3) aging population (fewer at childbearing age), and (4) high housing costs (lack of housing).³

Table 3.14-1
Population Growth in the SCAG Region
(2000-2019 for Incorporated Cities and Unincorporated Areas)

County	Population 2000 ¹	Population 2010 ²	Population 2019 ³	Growth Rate 2000-2010	Growth Rate (2010-2019)
Imperial	142,361	174,528	207,682	22.6%	19%
Los Angeles	9,519,338	9,818,605	10,333,540	3.1%	5.2%
Orange	2,846,289	3,010,232	3,250,121	5.8%	8%
Riverside	1,545,387	2,189,641	2,462,592	41.7%	12.5%
San Bernardino	1,709,434	2,035,210	2,217,205	19.1%	8.9%
Ventura	753,197	823,318	868,622	9.3%	5.5%
SCAG Region	16,516,006	18,051,534	19,339,762	9.3%	7.1%

Sources:

- 1 SCAG. 2016 Draft RTP.SCS. 3.14 Population, Housing, and Employment. Table 3.14.2-3 "Population Growth in the SCAG Region for 2000-2014." Available online at: <http://scagrtpscs.net/Pages/DRAFT2016PEIR.aspx>, accessed September 3, 2019.
- 2 California Department of Finance (DOF). 2010. E-5 Population and Housing Estimates for Cities, Counties, and the State. January. Available online at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>, accessed August 30, 2019.
- 3 Southern California Association of Governments (SCAG). 2019. 2019 Local Profiles. Available online at: <https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 3, 2019.

From the 1980s into the 2000s, the region was in a housing and economic boom, which led to increased immigration and household size, and a surge in population growth in all six SCAG counties. When the market slowed, beginning in 2006, growth slowed as well, and from the years 2010-2019, Imperial, Riverside, San Bernardino and Ventura counties all showed a significant decrease in population growth. During the same period, Los Angeles and Orange counties maintained similar growth rates for the years 2010-2019 compared to the years 2000-2010. This is not surprising, as the counties of Los Angeles and Orange contain coastal areas and metropolitan cities, which make them attractive destinations regardless of job and housing creation.

Housing

As shown in **Table 3.14-2, Households in the SCAG Region**, there were approximately 6.2 million households in the SCAG region in 2019, an increase from 2010. More than half of the households in the region are located in Los Angeles County. Unfortunately, California, like many other places in the U.S., is

³ Ibid.

experiencing a housing crisis. At a fundamental level, there is simply not enough housing for everyone who wants to live in the state.

Table 3.14-2
Households in the SCAG Region

County	Number of Households (2010)	Number of Households (2019)
Imperial	79,126	58,000
Los Angeles	3,239,280	3,409,500
Orange	990,019	1,053,500
Riverside	686,260	758,300
San Bernardino	611,618	656,500
Ventura	266,920	276,100
SCAG	5,873,223	6,211,900

Source: SCAG, 2019

Household Income

Median household income in the SCAG region in 2018 varies widely, from \$44,779 in Imperial County (incorporated cities) to \$81,972 in Ventura County (incorporated cities). The county with the second highest median income is Orange County (\$81,851) (incorporated cities). Across the SCAG region, the average income was \$64,597 (incorporated cities). Homeownership rates also vary, from a low of 45.9 percent in Los Angeles County (incorporated cities) to a high of 65 percent in Riverside County (incorporated cities). The average homeownership rate in the SCAG region is 57.9 percent (incorporated cities).⁴

Household Size

Household size in the SCAG region (Incorporated Cities) increased between 2000 and 2018, from 3.16 persons per household to 3.2 persons per household, or an increase of the equivalent of an average of 0.04 persons per household (**Table 3.14-3, Household Size in the SCAG Region [Persons]**). In descending order, San Bernardino, Riverside, Imperial, and Orange Counties' household size grew, while Ventura and Los Angeles Counties' household size declined between 2000 and 2018.

⁴ Southern California Association of Governments (SCAG). 2019. *2019 Local Profiles*. Available online at: <https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 3, 2019.

Table 3.14-3
Household Size in the SCAG Region (Persons)

County	2000 ¹	2018 ²	2000–2018 Change
Imperial	3.42	3.6	0.18
Los Angeles	3.14	3.0	-0.14
Orange	3.06	3.1	0.04
Riverside	3.09	3.3	0.21
San Bernardino	3.17	3.3	0.13
Ventura	3.11	3.1	-0.01
SCAG Region	3.16	3.2	0.04

Sources:

- 1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.
- 2 Southern California Association of Governments (SCAG). 2019. 2019 Local Profiles. Available online at: <https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 3, 2019.

Poverty

The U.S. Census Bureau reported 2.5 million people in the SCAG region were living in poverty in 2018, down from 2.9 million people in 2010 (**Table 3.14-4, Poverty Rates in the SCAG Region [1990–2018]**).⁵ The average poverty rate in the SCAG region has remained above the state and national averages since 1990. Imperial County has the highest poverty rate, followed by San Bernardino County, and Los Angeles County, which are above the state and national averages, and then Riverside County which has fallen below the state and national averages in recent years. Orange County and Ventura County have consistently had poverty rates below state and national averages between 1990 and 2018.

⁵ U.S. Census Bureau. 2018. Poverty Status in the Past 12 Months. Available online at: <https://data.census.gov/>, accessed October 29, 2019.

Table 3.14-4
Poverty Rates in the SCAG Region (1990-2018)

County	1990	2000	2010	2018
	Poverty Rate ¹	Poverty Rate ¹	Poverty Rate ¹	Poverty Rate ²
Imperial	23.8%	22.6%	23.0%	23.1%
Los Angeles	15.1%	17.9%	17.1%	14.1%
Orange	8.5%	10.3%	11.7%	10.5%
Riverside	11.5%	14.2%	15.6%	12.7%
San Bernardino	12.7%	15.9%	17.6%	14.9%
Ventura	7.3%	9.2%	10.3%	8.9%
SCAG Region Average	13.2%	15.0%	15.9%	14.0%
State Average	12.5%	14.2%	15.3%	12.8%

Sources:

1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.

2 U.S. Census Bureau. 2018. Poverty Status in the Past 12 Months. Available online at: <https://data.census.gov/>, accessed October 29, 2019.

Using U.S. Census Bureau American Community Survey Data, SCAG has identified underserved communities in the SCAG region. See Connect SoCal Technical Report, Environmental Justice, for discussion and analysis of environmental justice communities relative to the Plan. Disadvantaged communities in the SCAG region include census tracts that have been identified by the California Environmental Protection Agency (Cal/EPA) as Disadvantaged Communities (DACs) based on the requirements set forth in SB 535, which seek to identify areas disproportionately burdened by and vulnerable to multiple sources of pollution. Environmental justice areas of concern include those areas where there are issues of public health, housing, impacts on racial and ethnic minority groups, and environmental impacts.

Note that while socioeconomic issues do not in and of themselves constitute physical environmental impacts, they do have the potential to lead to physical environmental impacts. For example, as gentrification occurs near urban job centers, increased housing costs could outpace income growth leading to households moving toward more affordable suburbs. This would increase commute times, resulting in increases in vehicle miles traveled and air pollution.

Employment

Throughout the SCAG region, jobs are frequently co-located along major transportation intersections and transportation corridors. **Figure 3.14-1, Employment Density in the SCAG Region**, depicts the employment density across the region. Employment trends in Southern California have long followed a “boom and bust” cycle. Much of the 2000s saw a boom of housing development, particularly in the Inland Empire, only to be followed by a bust starting in 2008 which affected employment, particularly in

the housing construction and service sectors. In 2019, there were approximately 8.7 million jobs in the SCAG region (**Table 3.14-5, 2019 Employment by County**). Based on available SCAG data (2019), the economy experienced a net increase in jobs, between 2000 and 2019, for every county in the SCAG region (**Table 3.14-6, Employment Growth from 2000 to 2019**). As of 2019, Imperial County saw the largest relative increase in job generation, growing by 67.1 percent (31,048 jobs), followed by Riverside with 26.2% growth (168,593 jobs). The largest increase in jobs overall occurred in Los Angeles County with nearly 401,695 jobs and in Orange County with more than 336,543 jobs. Overall, the SCAG region gained approximately 1,033,738 jobs (or 13.6 percent) between 2000 and 2019.

**Table 3.14-5
2019 Employment by County**

County	Total County Employment
Imperial	77,348
Los Angeles	4,826,595
Orange	1,765,643
Riverside	812,793
San Bernardino	828,342
Ventura	346,417
SCAG Region	8,657,138

**Table 3.14-6
Employment Growth for 2000 to 2019**

County	2000 (Jobs) ¹	2019 (Jobs) ²	2000- 2019 Growth (Jobs)	Percent Change (2000- 2019)
Imperial	46,300	77,348	31,048	67.1%
Los Angeles	4,424,900	4,826,595	401,695	9.1%
Orange	1,429,100	1,765,643	336,543	23.5%
Riverside	644,200	812,793	168,593	26.2%
San Bernardino	704,000	828,342	124,342	17.7%
Ventura	374,900	346,417	-28,483	-7.6%
SCAG	7,623,400	8,657,138	1,033,738	13.6%

Sources:

1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Environmental Impact Report.

2 Southern California Association of Governments (SCAG). 2019. 2019 Local Profiles. Available online at: <https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 3, 2019.

Unemployment

Although unemployment rates declined between 2010 and 2018 for all counties in the SCAG region, rates of unemployment remain slightly above the national and state average (3.7 percent⁶ and 4.1 percent,⁷ respectively, as of August 2019) in Imperial, Los Angeles, and Riverside Counties (**Table 3.14-7, Unemployment Rates**). In 2018, Imperial County had the highest unemployment rate in the SCAG region (18.1 percent), while Orange County had the lowest in the SCAG region (2.9 percent, below the national and state averages). In 2018, the average unemployment rate in the SCAG region was 6.3 percent.

**Table 3.14-7
Unemployment Rates**

County	2000 Unemployment Rate ¹	2010 Unemployment Rate ¹	2018 Unemployment Rate ²
Imperial	17.5%	29.9%	18.1%
Los Angeles	5.4%	12.6%	4.7%
Orange	3.5%	9.5%	2.9%
Riverside	5.4%	14.5%	4.4%
San Bernardino	4.8%	14.2%	4.0%
Ventura	4.5%	10.8%	3.8%
SCAG Region	6.8%	15.3%	6.3%
State Average	4.9%	12.4%	4.2%

Sources:

1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report.

2 State of California Employment Development Department. 2018. REPORT 400 C - Monthly Labor Force Data for Counties - Annual Average 2018 - Revised. Available online at: <https://www.labormarketinfo.edd.ca.gov/file/lfhist/18aacou.pdf>, accessed September 5, 2019.

Growth Forecasts

In order to develop growth forecasts, SCAG encourages and utilizes the participation and cooperation of all local government partners within the SCAG region. SCAG uses a bottom-up planning process by which all local governments are informed of the Connect SoCal planning process and have clear and adequate opportunities to provide input. Growth forecasts and land use updates for development under the Plan have been developed through this bottom-up local input process, reflecting the following guiding principles approved by SCAG's Regional Council on August 1, 2019 .

⁶ Bureau of Labor Statistics, *The Employment Situation—August 2019*. Available online at: <https://www.bls.gov/news.release/pdf/empsit.pdf>, accessed September 16, 2019.

⁷ State of California Employment Development Department, *California Unemployment rate dips to record low 4.1 percent in July*. Available online at: <https://www.edd.ca.gov/newsroom/unemployment-august-2019.htm>, accessed September 16, 2019.

- Principle #1: The draft plan forecast for Connect SoCal shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the employment, population and household growth projections derived from local input and previously reviewed and approved by SCAG's local jurisdictions. The draft plan growth forecast maintains these projected jurisdictional growth totals, meaning further growth is not reallocated from one local jurisdiction to another.
- Principle #2: The draft plan forecast at the Transportation Analysis Zone (TAZ) level is controlled to be within the density ranges of local general plans or input received from local jurisdictional in this most recent round of review.
- Principle #3: For the purpose of determining consistency for California Environmental Quality Act (CEQA) streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan.
- Principle #4: TAZ level data or any data at a geography smaller than the jurisdiction is included in the draft plan forecast only to conduct the required modeling analytical work and is therefore, only advisory and non-binding as SCAG's sub-jurisdictional forecasts are not formally adopted as part of the Plan.

**Table 3.14-8
2019-2045 Population, Households, and Employment Projections in the SCAG Region**

County Name	Population 2019	Population 2045	Percentage Increase	Households 2019	Households 2045	Percentage Increase	Employment 2019	Employment 2045	Percentage Increase
Imperial	207,700	281,200	35%	58,000	92,500	59%	77,300	130,200	68%
Los Angeles	10,333,600	11,677,200	13%	3,409,500	4,124,500	21%	4,826,600	5,382,200	12%
Orange	3,250,100	3,534,600	9%	1,053,500	1,153,500	10%	1,765,600	1,980,400	12%
Riverside	2,462,600	3,251,700	32%	758,300	1,086,100	43%	812,800	1,102,700	36%
San Bernardino	2,217,100	2,815,500	27%	656,500	874,800	33%	828,300	1,063,800	28%
Ventura	868,600	947,500	9%	276,100	306,400	11%	346,400	389,400	12%
SCAG Region	19,339,700	22,507,200		6,211,900	7,638,600		8,657,000	10,048,500	

Source: Southern California Association of Governments (SCAG). 2019. Connect SoCal.

3.14.2 REGULATORY FRAMEWORK

3.14.2.1 Federal

Federal Uniform Act (URA) (1970)

The Federal Uniform Act (Uniform Relocation Assistance and Real Property Acquisition Policies Act; 42 U.S. Code [USC] 61), passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms. The Uniform Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.⁸

Department of Housing and Urban Development Act

The Department of Housing and Urban Development Act created the U.S. Department of Housing and Urban Development (HUD) as a Cabinet-level agency. HUD is responsible for national policy and programs that address housing needs in the U.S. HUD is responsible for enforcing fair housing laws. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.⁹

Fixing America's Transportation Act (FAST)

The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), enacted in 2015, builds on the changes to federal transportation planning law made by MAP-21.¹⁰ It was the first long-term surface transportation authorization enacted in a decade that provides long-term funding certainty for surface transportation. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway improvements, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains the focus on safety, keeps intact the established structure of the various highway-related programs, continues

⁸ U.S. Code. 42 USC Ch. 61: *Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federal Assisted Programs*. Available online at: <https://uscode.house.gov/view.xhtml?path=/prelim%40title42/chapter61&edition=prelim>, accessed August 29, 2019.

⁹ Federal Register. *Housing and Urban Development Department*. Available online at: <https://www.federalregister.gov/agencies/housing-and-urban-development-department>, accessed August 29, 2019.

¹⁰ The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012 (PL 112-141).

efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects.¹¹

Federal Planning Regulations, Title 23 CFR 450.322(e)

This federal regulation requires that in development of the regional transportation plan that the related local Metropolitan Planning Organization (MPO) validate data utilized in preparing other existing modal plans (such as transit providers long range plans) for providing input to the regional transportation plan. In updating the plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and supporting analyses produced by a transportation plan update.¹²

3.14.2.2 State

SB 375- The Sustainable Communities and Climate Protection Act of 2008

Senate Bill 375 (SB 375) focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill No. 32 (AB 32). SB 375 requires California MPOs to develop a Sustainable Communities Strategy (SCS) as part of its Regional Transportation Plan (RTP), with the purposes of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. In application, the SCS must identify the general location of land uses, residential densities, and building intensities within the region; identify areas within the region sufficient to house all the population of the region; identify areas within the region sufficient to house an eight-year projection of the regional housing need; identify a transportation network to service the regional transportation needs; gather and consider the best practically available scientific information regarding resources areas and farmland in the region; consider the state housing goals; set forth a forecasted development pattern for the region; and allow the regional transportation plan to comply with the federal Clean Air Act (CAA) of 1970 (42 USC. § 7401 *et seq.*) (Gov. Code, § 65080, subd. (b)(F)(2)(B)), of which, when integrated with the transportation network, and other transportation measures and policies will reduce the GHG from automobiles and light duty trucks to achieve, if there is a reasonable way to do so, the GHG emission reduction targets approved by the California Air Resources Board (ARB). If the SCS does not achieve the

¹¹ Federal Highway Administration. *Fixing America's Surface Transportation Act*. Available online at: <https://www.fhwa.dot.gov/fastact/>, accessed August 29, 2019.

¹² Electronic Code of Regulations. *Title 23: Highways, Part 450 – Planning and Assistance and Standards*. Available online at: https://www.ecfr.gov/cgi-bin/text-idx?SID=4f4c8515fcb6873787857e30df84a31b&mc=true&node=pt23.1.450&rgn=div5#se23.1.450_1322, accessed August 29, 2019.

GHG emission targets set by ARB, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved.

SB 375 also imposes a number of new requirements on the regional housing needs process. Prior to SB 375, the regional transportation plan and regional housing needs processes were not required to be coordinated. SB 375 now synchronizes the schedules of the RHNA (as discussed in more detail below) and RTP processes every eight years. The RHNA also allocates housing units within the region consistent with the development pattern included in the SCS.

Regional Housing Needs Assessment

The California Legislature developed the RHNA process (Govt. Code § 65580 *et seq.*) in 1977 to address the serious affordable housing shortage in California. The California Department of Housing and Community Development (HCD) in consultation with each council of governments determines each region's existing and projected housing need.¹³ HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the region's housing need.¹⁴ HCD's determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.¹⁵

In consultation with HCD, each council of governments must develop and adopt a methodology for distributing the existing and projected regional housing need to cities, counties, and cities and counties within the region.¹⁶ The council of government then adopts a final regional housing need plan that allocates a share of the regional housing need to each city, county, or city and county.¹⁷

Local government must address their allocated share of housing needs of all economic segments of the community through their housing elements.¹⁸ Local governments must adopt a housing element as part of their general plan. Unlike the rest of the general plan, where updates sometimes occur at intervals of 20 years or longer, under previous law the housing element was required to be updated as frequently as needed and no less than every five years. Under SB 375, this period has been lengthened to eight years and timed so that the housing element period begins no less than 18 months after adoption of the

¹³ Govt. Code § 65584(b).

¹⁴ Govt. Code § 65584.01(b).

¹⁵ Govt. Code § 65584.01(a).

¹⁶ Govt. Code § 65584.04.

¹⁷ Govt. Code § 65584(b).

¹⁸ California Legislative Information. *Article 10.6. Housing Elements [65580 – 65589.11]*.

regional transportation plan, to encourage closer coordination between housing and transportation planning. SB 375 also changes the implementation schedule required in each housing element. Previous law required the housing element to contain a program which set forth a five-year schedule to implement the goals and objectives of the housing element. The new law instead requires this schedule of actions to occur during the eight-year housing element planning period, and requires each action have a timetable for implementation.¹⁹

The purpose of the housing element is to identify the community's housing needs, state the community's goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs. In addition, the housing element defines the related policies and programs that the community will implement in order to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Plan.²⁰

In prior cycles, factors such as household growth and household income distribution were the primary factors considered in determining a jurisdiction's RHNA allocation. For the 6th RHNA cycle, SCAG plans to consider other factors in addition to household growth. These factors include transit accessibility, job accessibility, and indicators that influence a community's environmental, educational, and economic resource accessibility.

As discussed above in the discussion of SB 375, state law requires preparation of a RHNA allocation plan every eight years. SCAG's 6th Cycle RHNA quantifies the regional need for housing and then allocates the regional need to each jurisdiction for a planning period between October 2021 and October 2029. Local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units) by income categories through the process of updating the Housing Elements of their General Plans. The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment.²¹

This region's 6th Cycle RHNA allocation plan consists of two measurements of housing need: (1) existing need and (2) future need for very-low income, low-income, moderate, and above-moderate income categories.

¹⁹ California Legislative Information. *Senate Bill No. 375*.

²⁰ California Legislative Information. *Article 10.6. Housing Elements [65580-65589.11], Section 65580*.

²¹ SCAG. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: <https://www.scag.ca.gov/programs/Pages/Housing.aspx>, accessed August 29, 2019.

The existing need assessment is based on data from the most recent US Census to measure ways in which the housing market is not meeting the needs of current residents. These variables include the number of households paying more than 30 percent of their income for housing, as well as overcrowding.

The future need for housing is determined primarily by the forecasted growth in households in a community, based on historical growth patterns, job creation, household formation rates, and other factors to estimate how many households will be added to each community over the projection period. The housing need for new households is then adjusted to account for an ideal level of vacancy needed to promote housing choice, maintain price competition, and encourage acceptable levels of housing upkeep and repair. The RHNA also accounts for units expected to be lost due to demolition, natural disaster, or conversion to non-housing uses. The sum of these factors including household growth, vacancy need and replacement need form the “projected need” assigned to each community. Per SB 375, the projected need’s portion of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.

SCAG’s RHNA allocation plan considers how each jurisdiction might grow in ways that will decrease the over-concentration of low-income households. The need for new housing is distributed among income groups so that each community moves closer to the county income distribution.

Consistent with the state housing law, the primary objectives the 6th Cycle RHNA allocation plan are:

1. Increase the housing supply and mix of housing types, tenure and affordability within each region in an equitable manner
2. Promote infill development and socioeconomic equity, the projection of environmental and agricultural resources, and the encouragement of efficient development patterns
3. Promote an improved interregional relationship between jobs and housing
4. Allocating a lower proportion of housing need in income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution
5. Affirmatively furthering fair housing

On October 15, 2019, SCAG received the Final Regional Determination from HCD.²² On November 7, 2019, SCAG Regional Council approved a Draft RHNA Allocation Methodology for HCD’s review. The Regional Council is scheduled to approve the Final RHNA Methodology in March 2020 and release the Draft RHNA Allocation by jurisdictions prior to adopt the Connect SoCal in April 2020.

²² HCD issued its final RHNA determination for the SCAG region of 1.34 million total housing units among four income categories for SCAG to distribute among its jurisdictions from 2021-2029. As discussed above, this total need includes both existing need and projected need.

As discussed above, under Government Code Section 65080(b)(2)(B)(iii), the SCS element of Connect SoCal must identify areas within the region sufficient to house an eight-year projection of SCAG's regional housing need. SCAG's regional housing need for the 6th Cycle RHNA as determined by HCD captures existing and projected need. As such, the SCS must accommodate the projected need portion of the 6th Cycle RHNA. SCAG satisfies this requirement by using local input (including projected households) which projects growth at the jurisdictional level in the SCS as further discussed in the Plan's Demographics and Growth Forecast Technical Report. Therefore, the projected housing need's portion of the 6th Cycle RHNA is consistent with Connect SoCal for the RHNA planning period (October 2021 to October 2029) per SB 375 requirements. In addition, while the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process.²³

Senate Bill No. 2

SB 2 (Chapter 633, Statutes of 2007) strengthens state housing element law (Government Code Section 65583) by ensuring that every jurisdiction identifies potential sites where new emergency shelters can be located without discretionary review by the local government. It also increases protections for providers seeking to open a new emergency shelter, transitional housing or supportive housing development, by limiting the instances in which local governments can deny such developments.²⁴

California Relocation Assistance Act

The California Relocation Assistance Act (Government Code Section 7260 *et seq.*) establishes uniform policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. The California Relocation Assistance Act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Displaced persons or businesses are assured payment for their acquired property at fair market value. Relocation assistance in the form of

²³ Connect SoCal and this PEIR address reasonably foreseeable households in the SCAG region. The population and households are distributed in accordance with the growth forecast as described in Demographics and Growth Forecast Technical Report in the Plan. The RHNA is a separate planning requirement. It addresses the mandate to plan for housing units to implement planning policies. The difference between households and housing units is that households are occupied housing units. While HCD has issued its final RHNA determination for the SCAG region of 1.34 million total housing units, which includes both existing need and projected need, these units do not translate to households. As discussed above, SCAG has not yet approved the Final RHNA Methodology or developed its RHNA allocation. Furthermore, it is infeasible to predict if/when and how such housing units would be incorporated into housing elements and whether the housing elements will be implemented and converted to forecast growth.

²⁴ California Legislative Information. *Senate Bill No. 2*.

advisory assistance and financial benefits would be provided at the local level. This includes aid in finding a new home location, payments to help cover moving costs, and additional payments for certain other costs.

Senate Bill 535: California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (GGRF)

SB 535 was signed into law by Governor Brown on September 30, 2012. This bill sets aside cap and trade revenues to mitigate climate change in disadvantaged communities. The California EPA is the responsible agency for identifying disadvantaged communities for potential investment. The California Department of Finance must allocate 25 percent of the available moneys in the GGRF to projects that benefit disadvantaged communities and a minimum of 10 percent to projects located within disadvantaged communities.²⁵

Homeowners and Private Property Protection Act

In 2008, California voters approved Proposition 99, the Homeowners and Private Property Protection Act, which amended the California Constitution so that local governments are prohibited from using eminent domain authority to acquire an owner-occupied residence for the purposes of conveying it to a private recipient, with limited exceptions. Proposition 99 applies only to owner-occupied residences but cities may still use eminent domain authority to convey multi-family and non-residential property to other private parties.²⁶

3.14.2.3 Local

Housing Elements of County and City General Plans

The most comprehensive and detailed land use planning, including that for population, housing, and employment in the SCAG region, is provided by city and county General Plans, which local governments are required by state law to prepare as a guide for future development. As noted above, state law mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community as discussed above. The housing element of a general plan illustrates strategies for future development and improvements to the area's housing stock, with specific goals for the short-term (see **Table 3.14-9, Summary of Housing Goals by County in the SCAG Region**). The housing element often includes programs to improve neighborhoods, provide adequate housing

²⁵ California Legislative Information. *Senate Bill No. 535*.

²⁶ LA Law Library. *Text of Proposed Laws, Proposition 99*. Available online at: http://www.lalawlibrary.org/pdfs/PROP_0608_99.pdf, accessed August 29, 2019.

sites, assist in the provision of affordable housing and promote fair and equal housing opportunities. Housing policy in the state rests largely upon the effective implementation of local general plans and, in particular, local housing elements.

**Table 3.14-9
Summary of Housing Goals by County in the SCAG Region**

County	County and City Policies and Ordinances
Imperial ^a	<p>Goal 1: Ensure the availability of a variety of housing types for all income levels throughout the county.</p> <p>Goal 2: Encourage affordable housing developments by utilizing all available funding sources, offering developer incentives, and allowing a wide range of housing types to serve the housing needs of the county’s labor force, special needs groups, and families of all income levels.</p> <p>Goal 3: Continue to facilitate the provision of housing suited to persons with special housing needs.</p> <p>Goal 4: Facilitate the provision of fair housing opportunities for all residents of Imperial County.</p> <p>Goal 5: Encourage the improvement, rehabilitation, and revitalization/ reinvestment of the county’s existing residential neighborhoods.</p> <p>Goal 6: Promote sustainable development by encouraging the inclusion of energy conservation features in new and existing housing stock.</p> <p>Goal 7: Encourage and facilitate the regional coordination of public agencies and business organizations to maximize public and private sector resources that will support a vibrant community.</p> <p>Goal 8: Pursue actions to reduce regulatory constraints to housing that impede housing opportunities.</p>
Los Angeles ^b	<p>Goal 1: A wide range of housing types in sufficient supply to meet the needs of current and future residents, particularly for persons with special needs, including but not limited to low income households, seniors, persons with disabilities, large households, single-parent households, the homeless and at risk of homelessness, and farmworkers.</p> <p>Goal 2: Sustainable communities with access to employment opportunities, community facilities and services, and amenities.</p> <p>Goal 3: A housing supply that ranges broadly in housing costs to enable all households, regardless of income, to secure adequate housing.</p> <p>Goal 4: A housing delivery system that provides assistance to low- and moderate-income households and those with special needs.</p> <p>Goal 5: Neighborhoods that protect the health, safety, and welfare of the community, and enhance public and private efforts to maintain, reinvest in, and upgrade the existing housing supply.</p> <p>Goal 6: An adequate supply of housing preserved and maintained in sound condition, and located within safe and decent neighborhoods.</p> <p>Goal 7: An affordable housing stock that is maintained for its long-term availability to low- and moderate-income households and those with special needs.</p> <p>Goal 8: Accessibility to adequate housing for all persons without discrimination in accordance with state and federal fair housing laws.</p> <p>Goal 9: Planning for and monitoring the long-term affordability of adequate housing.</p>
Orange ^c	<p>Goal 1: An adequate supply of housing that varies sufficiently in cost, style, tenure, and neighborhood type to meet the economic and social needs of every existing and future resident of the county; and which provides sufficient housing opportunities to achieve a better jobs-housing balance for employees of businesses located in the unincorporated area.</p> <p>Goal 2a: To conserve and improve the condition of the existing housing stock, especially affordable housing.</p> <p>Goal 2b: Work cooperatively with cities and LAFCO to facilitate the annexation and revitalization of urbanized unincorporated islands.</p> <p>Goal 3: To promote equal housing opportunities for all persons without discrimination on the basis of race, religion, ethnicity, sex, age, marital status, disability, or household composition.</p> <p>Goal 4: Reduce residential energy use within the County.</p> <p>Goal 5: To encourage the provision of child care facilities in new affordable housing developments.</p> <p>Goal 6: To monitor changing circumstances and make adjustments to County programs as necessary to maximize progress toward established goals and objectives.</p>
Riverside ^d	<p>Goal 1: To assist in the development of adequate housing to meet the county’s fair share of the region’s housing needs for all</p>

County	County and City Policies and Ordinances
	<p>economic segments of the population, with an emphasis on lower-income households and households with special needs.</p> <p>Goal 2: To conserve and improve the condition of the housing stock, particularly affordable housing.</p> <p>Goal 3: To promote equal housing opportunities for all persons regardless of race, age, sexual orientation, religion, sex, etc.</p> <p>Goal 4: Establish adequate planning, administrative and fiscal tools to implement housing policies</p> <p>Goal 5: Reduce per capita residential energy use.</p>
San Bernardino ^e	<p>Goal H-1: A broad range of housing types in sufficient quantity, location, and affordability levels to meet the lifestyle needs of current and future residents, including those with special needs.</p> <p>Goal H-2: An efficient administrative process that recognizes the need for efficient and timely review of residential projects while also ensuring and valuing the need for quality design, environmental review, and planning.</p> <p>Goal H-3: Neighborhoods that protect the health, safety, and welfare of the community, and enhance public and private efforts in maintaining, reinvesting in, and upgrading the existing housing stock.</p> <p>Goal H-4: Assist in the development, maintenance, modernization, and preservation of affordable housing; provide assistance where feasible for residents to rent or purchase adequate housing in San Bernardino County.</p> <p>Goal H-5: Ensure an integrated planning and monitoring system whereby housing, employment, environmental, and other program data are integrated in a cohesive manner to implement the County's housing vision.</p>
Ventura ^f	<p>Goal 1: Monitor the rate and distribution of growth within the cities and unincorporated area of the County, and ensure that the population and dwelling unit forecasts of the County General Plan are periodically updated and are consistent with the cities' and County's General Plans and the ability to provide adequate public facilities and services.</p> <p>Goal 2: Ensure that the rate and distribution of growth within the County does not exceed the capacity of public facilities and services to meet the needs of the County's population and to protect the public health, safety, and welfare.</p> <p>Goal 3: Preserve the condition of the existing housing stock and the continuing affordability of currently affordable units.</p> <p>Goal 4: Continue and expand, where feasible, existing housing rehabilitation programs.</p> <p>Goal 5: Increase housing opportunities for households of all income levels, with special emphasis on lower-income households, senior citizens, mentally ill, single heads of household, large families, farmworkers, handicapped and homeless.</p> <p>Goal 6: Promote a diversity of housing types, tenure, and price.</p> <p>Goal 7: Promote housing opportunities for all persons regardless of race, religion, sex, marital status, age, ancestry, national origin, color, or socio-economic status by attempting to eliminate discrimination in housing through support of Federal, State and local fair housing laws and policies.</p> <p>Goal 8: Ensure that the Population and Housing Section of the County General Plan and new housing developments are consistent with the goals, objectives and policies of the various Area Plans and other County adopted plans and policies. Ensure that Area Plans are consistent with the goals, objectives and policies of the Population and Housing Section of the County General Plan.</p> <p>Goal 9: Ensure that the Population and Housing Section of the County General Plan is kept current by updating population data on an ongoing basis; by reassessing the goals, objectives and policies of the Population and Housing Section; and by evaluating the effectiveness of the Section's programs as specified by State law.</p>

Sources:

- a County of Imperial. 2013. 2014-2021 Housing Element. Available online at: http://www.icpds.com/CMS/Media/3_ImperialCountyHE_-FINAL_9-27-13.pdf, accessed November 5, 2019.
- b County of Los Angeles. Los Angeles County Housing Element, 2014-2021. Available online at: http://planning.lacounty.gov/assets/upl/project/housing_element.pdf, accessed November 5, 2019.
- c County of Orange. 2013. Housing Element. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=33606>, accessed November 5, 2019.
- d County of Riverside. 2017. Riverside County Strategic Plan, Chapter 8- Housing Element 2017-2021. Available online at: https://planning.rctlma.org/Portals/14/genplan/general_Plan_2017/elements/OCT17/Ch08_Housing_100317.pdf?ver=2017-10-23-162929-533, accessed November 5, 2019.
- e County of San Bernardino. County of San Bernardino 2013-2021 Housing Element. Available online at: <http://www.sbcounty.gov/uploads/lus/pc/Draft%205th%20Cycle%20Housing%20Element%20County%20of%20San%20Bernardino%20-%202013-2021%20-%20Website.pdf>, accessed November 5, 2019.
- f County of Ventura. 2019. Ventura County General Plan Goals, Policies, and Programs. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/Goals-Policies-and-Programs.pdf>, accessed November 5, 2019.

Local Coastal Programs

The Local Coastal Programs (LCPs) are local planning tools to monitor development and permitting in coastal areas. There are three counties and 27 cities within the SCAG region with coastlines that are mandated to prepare LCPs as a result of the California Coastal Act of 1976.²⁷ The LCPs prepared by these local jurisdictions may contain goals and policies related to housing type, location, and affordability.²⁸

3.14.3 ENVIRONMENTAL IMPACTS

3.14.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan would result in significant impacts to the region's population and housing resources, if either of the following would occur:

- Induce substantial unplanned population growth to areas of the region either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., by extending roads and other infrastructure); and/or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.14.3.2 Methodology

The methodology for determining the significance of population and housing impacts compares the existing conditions to future (2045) conditions, as required in CEQA Section 15126.2(a).

The Plan includes transportation projects as well as land use and transportation strategies that may influence population, housing and employment growth and distribution. Forecasted land use patterns are developed to accommodate growth projections by identifying distribution and anticipated land uses that may allow for well-planned growth. SCAG holds growth projection numbers constant at the county and regional level, meaning that as the distribution of population, housing and employment changes, the total numbers remain constant. In sum, the Plan includes a growth forecast, land use and transportation strategies, and projected land use patterns which are integrated with the transportation network and

²⁷ California Legislative Information. *AB-976*.

²⁸ California Coastal Commission. *Local Coastal Programs*. Available online at: <https://www.coastal.ca.gov/lcps.html>, accessed August 29, 2019.

investments (see Section 2.0, Project Description). This PEIR evaluates a range of feasible alternatives that consider the possibility of different growth patterns (see **Chapter 4.0, Alternatives**).

Although land use development would occur with or without the Plan, Connect SoCal has the potential to influence growth distribution patterns throughout the region, partially by encouraging new growth in existing urbanized areas and high-quality transit areas (HQTAs). To address this, the analysis in the PEIR covered overall impacts of transportation projects and anticipated land development patterns described in the Plan.

Transportation projects in the Plan were reviewed to identify those that may involve right-of-way (ROW) acquisition and the potential for displacement of homes and businesses. These projects that might require acquisition of right of way (ROW) were analyzed with a 500-foot buffer with a geographic information system (GIS) to generally identify locations within areas of residential land use that had the potential for large displacement of existing homes and businesses.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.14.3.3 Impacts and Mitigation Measures

Impact POP-1 Induce substantial unplanned population growth to areas of the region either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., by extending roads and other infrastructure).

Significant and Unavoidable Impact – Mitigation Required.

The Plan includes land use strategies and transportation projects and supporting strategies that generally encourage population growth in urbanized areas and HQTAs. Land use strategies in the Plan include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. Implementation of these strategies may result in increased population densities in some urban

Due to the Plan's land use strategies that focus on compact development, there is potential to induce growth in some areas of the region although overall the Plan accommodates anticipated growth rather than inducing growth.

Transportation strategies included in the Plan such as TSM and complete streets would support increased density in existing urban areas by facilitating travel and would not be expected to induce population growth as these projects are growth accommodating and generally are aimed at improving the existing transportation networks.

Transportation projects such as new and expanded light and heavy rail projects, while not adding new homes or businesses directly, have the potential to create demand for new development around transit stations. However, many communities foresee these types of development, and plan for them accordingly.

Generally, most jurisdictions have started planning for this increase in density in urban areas and the Plan builds on local input (and is not intended to result in re-designation of areas where such re-designation is not approved by the local agency). However, there remains the potential for the Plan's strategies to influence population growth in areas where local general plans have not yet been updated to reflect such growth. Therefore, implementation of the Plan would have the potential to induce unplanned growth in some areas of the region resulting in a significant impact, requiring mitigation measures.

As discussed in **Section 2.0, Project Description**, as well as earlier in this section, the Plan's population, housing and employment growth forecast includes the projected population distribution that would occur in 2045 if the policies and investments included in the Plan were to be implemented. The growth forecast is based on local input, with a distribution of growth in urbanized areas, and within and around HQTAs, and other minor modifications at a regional policy level. The total SCAG region population is expected to increase by approximately 3.2 million persons by 2045. The land use development pattern of the Plan assumes a significant increase in small-lot, single-family, and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure within HQTAs, including livable corridors²⁹ and neighborhood mobility areas.³⁰ In 2018, 55 percent of total housing units were single-family units and 45 percent were multi-family units. The Plan projects that in 2045, 39 percent of new homes in the SCAG region will be single-family units and 61 percent multi-family units.³¹

²⁹ Most Livable Corridors would be located within HQTAs.

³⁰ Neighborhood mobility areas are conducive to active transportation and include a "complete streets" approach to roadway improvements to encourage replacing single- and multi-occupant automobile use with biking, walking, skateboarding, neighborhood electric vehicles and senior mobility device.

³¹ SCAG modeling SPM Output, September 13, 2019.

In 2045, 27 percent of households are anticipated to be large-lot single-family units, 23 percent small-lot single-family units, 8 percent townhome units, and 42 percent multi-family units.³² Government Code Section 65080(b)(2)(B)(ii) requires that the RTP/SCS must accommodate all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan. In accordance with requirement, this projected housing mix would help the region accommodate the projected housing needs over the life of the Plan, especially housing at the lower income categories.

As mandated by State Housing Law as part of the periodic (every eight years) process of updating local housing elements of the General Plan, SCAG is responsible for the allocation of regional housing need to jurisdictions in the region. As discussed in the Regulatory Framework above, SCAG is in the process of developing its 6th cycle RHNA Allocation Plan, which is expected to be adopted in 2020. The current RHNA Allocation Plan, which will cover the planning period from October 2021 through October 2029, is planned for adoption by SCAG's governing body, Regional Council, in October 2020.³³ As discussed above, local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units). Communities may use the RHNA in land use planning, prioritizing local resource allocation, and in deciding how to address identified existing and future housing needs resulting from population, employment, and household growth.³⁴

Implementation of the Plan's land use development pattern would accommodate 48 percent of the region's future household growth and 59 percent of the future employment growth in HQTAs,³⁵ while keeping jurisdictional totals consistent with local input. It moves the region towards more compact, mixed-use development with a variety of housing types leading to more opportunities for walking and biking, more transit use, and shorter auto trips. Additionally, the integrated transportation investments and land use strategies in the Plan would influence economic (jobs) and household growth in some areas, such as HQTAs, and could remove some obstacles to growth in other parts of the region. Specifically, improved accessibility and connectivity potentially gained from transportation investments in the Plan could facilitate population and economic growth in areas of the region that are currently not developed or underdeveloped. Therefore, implementation of the Plan would have a potential to indirectly induce unplanned growth in some areas of the SCAG region, requiring the consideration of mitigation measures.

³² SCAG modeling SPM Output, September 13, 2019.

³³ Southern California Association of Governments. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: <http://www.scag.ca.gov/programs/pages/housing.aspx>, accessed September 3, 2019.

³⁴ Ibid.

³⁵ SCAG modeling, SPM Output, October 1, 2019.

*Mitigation Measures*SCAG Mitigation Measures

- SMM-POP-1:** SCAG shall promote the Sustainability Program which will provide technical assistance to local jurisdictions that support local planning and implementation of the Connect SoCal Plan. The program recognizes sustainable solutions to local growth challenges and will result in local plans that promote sustainability through the integration of transportation and land use. For more information please visit: <http://sustain.scag.ca.gov/Documents/Sustainable%20Communities%20Program%20Guidelines.pdf>.
- SMM-POP-2:** SCAG shall provide technical assistance to local governments, transit agencies and developers within the region to build housing capacity to compete in the statewide Affordable Housing Sustainable Communities (AHSC) grants program. The AHSC program is one of the few state funding opportunities to address housing shortages within the state. For more information please visit: <http://ahsc.scag.ca.gov/Pages/Home.aspx>.
- SMM-POP-3:** SCAG shall host summits that addresses the housing crisis and provides solutions to build more housing. Examples include the 2016 Housing Summit (<http://www.scag.ca.gov/SiteAssets/HousingSummit/index.html>) and the Eighth Annual Economic Summit (<https://www.scag.ca.gov/calendar/Pages/8thEconomicSummit.aspx>).
- SMM-POP-4:** SCAG shall continue to produce the biennial Local Profile reports for all member jurisdictions in the SCAG region for the purpose of data and information sharing. The Local Profiles reports provide a variety of demographic, economic, education, housing, and transportation information that local jurisdictions can utilize like project and program planning. For more information about the most recently release 2019 Local Profiles, please visit: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and

feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to induce unplanned growth could be significant and unavoidable even with implementation of mitigation.

Impact POP-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Significant and Unavoidable Impact – Mitigation Required.

The construction of transportation projects that require expansion of existing or designation of new ROWs have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing, thereby constituting a potentially significant impact. In general, transportation projects included in the Plan would attempt to use existing ROWs to the maximum extent feasible. However, the development of some highway, arterial, transit and rail projects included in the Plan would result in the disturbance and/or loss of residential and business uses. Connect SoCal includes system expansion projects, such as new freeway lane miles and new transit track miles, which have the potential to result in the loss of land currently used for residential and business purposes. In past regional transportation plans, SCAG has envisioned a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along the I-710, connecting to an east-west segment, and finally reaching the I-15 in San Bernardino County (the East-West Freight Corridor). However, in March 2018, Metro Board of Directors selected Alternative 5C as the Locally Preferred Alternative for the I-710 Corridor project. This alternative reduced the extent of the truck-only lanes of the project, terminating at Del Amo Boulevard, south of SR-91 and well short of downtown Los Angeles connection to the East-West Freight Corridor along SR-60. Overall, the I-710 corridor project would add one lane in each direction between Long Beach and the SR-60 Freeway.³⁶ Based on analysis by Metro and Caltrans, Alternative 5C would acquire 109 homes and 158 businesses to expand the freeway, resulting in the displacement of an estimated 436 people.³⁷ Additional goods movement projects included in the Plan, such as grade separations, also have the potential to displace homes or businesses, as many of the areas where grade separations are proposed would be in developed urban areas.

³⁶ Metro The Source. *710 project OK'd but widening deferred*. March 1, 2018. Available online at: <https://thesource.metro.net/2018/03/01/board-approves-alternative-for-710-but-defers-decision-on-widening/>, accessed October 28, 2019.

³⁷ Los Angeles Times. *Metro staff support a \$6-billion widening of the 710 Freeway*. February 13, 2018. Available online at: <https://www.latimes.com/local/lanow/la-me-710-freeway-south-20180213-story.html>, accessed October 28, 2019.

Geographic information systems (GIS) was used to analyze where major freeway, rail, and transit projects, such as those described above, would intersect areas used for residential development. A 500-foot potential impact zone was drawn around the freeway, rail and transit projects in the Plan to compute the number of acres that could potentially be affected by the construction and operation of major transportation projects in the Plan.

Table 3.14-10, Potential Displacement of Existing Residential and Commercial Land Uses (in Acres), shows the results of the analysis with the potential acreage of these affected areas by county.

Displacement of housing was assessed by evaluating the location of major transportation projects in relation to surrounding land uses and community development. Highway and transit/rail extensions and major interchange projects were assumed to have a higher potential to disrupt or divide existing communities since they would involve the creation of new roadways. Highway widening and other projects along established transportation rights-of-way were assumed to have a lower potential to divide or disrupt existing communities and neighborhoods. As shown in the table, a total of 20,138 homes or businesses could be affected by the Plan's transportation projects. The analysis is based on general descriptions of transportation projects listed in the Plan and is regional and programmatic in nature.

**Table 3.14-10
Potential Displacement of Existing Residential and Commercial Land Uses (in Acres)**

Land Use	County						Total
	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	
Commercial and services	64	1,369	635	821	874	532	4,295
General office	6	468	269	284	359	130	1,516
Industrial	3	2,203	208	719	570	193	3,895
Mixed commercial and industrial	-	8	0.7	131	30	7	179
Mixed residential	-	111	-	5	34	11	160
Mixed residential and commercial	-	237	78	59	75	133	581
Mobile homes and trailer parks	13	157	62	199	71	53	555
Multi-family residential	3	697	391	389	222	121	1,823
Rural residential	-	208	-	301	192	0.5	702
Single-family residential	35	3,258	1,018	983	880	260	6,434
Total	123	8,716	2,662	3,890	3,307	1,441	20,138

Source: SCAG, 2019

In total, the Plan includes approximately 6,346 new lane miles including freeways, toll roads, major and minor arterials, collectors, high-occupancy toll (HOT), and high-occupancy vehicle (HOV) lanes.³⁸ These transportation facilities including freeways, toll roads, major and minor arterials, collectors, high-occupancy toll (HOT), and high-occupancy vehicle (HOV) lanes could displace homes and businesses in the region, constituting a significant impact requiring the consideration of mitigation measures.

Communities may be affected by the implementation of land use strategies included in Connect SoCal, that may influence infill development with the potential for displacement of substantial amounts of existing housing necessitating the construction of replacement housing elsewhere. The Plan includes land use strategies that would target the region's growth in the next 25 years into HQTAs, urban areas, and more walkable, mixed-use communities. Supported by other public amenities and transit services, housing in these areas tends to command higher premiums and may be attractive to more affluent residents and unaffordable to current residents in these areas. This phenomenon contributes to gentrification and displacement³⁹ that has occurred in parts of Los Angeles in recent years, including Hollywood, Venice, Echo Park, and Koreatown. As a result, existing housing in some communities in the region may be displaced and replaced with higher density housing, in particular within HQTAs. The proposed land use patterns are anticipated to accommodate 48 percent of the region's future household growth in HQTAs.⁴⁰

As local governments seek to provide the region's population with housing and jobs in areas with active transportation opportunities or transit amenities, it is anticipated that changes would occur in existing communities. As such, the potential for "gentrification," or the displacement of lower-income residents, could occur if new development brings higher-income residents into a neighborhood. Neighborhood residents in areas of low income and/or enclaves of marginalized minorities may not benefit from planned transit investment, stations, and other amenities (e.g., walkways and bikeways) that come with this new neighborhood revitalization. More affluent and less diverse residents have the potential to displace them because new development near transit areas could be popular and unaffordable. Hence, the potential to directly or indirectly induce substantial population growth and displace a community in such an area could occur.

Concerns about indirect displacement of people have been raised regionwide, even where no changes to land use designations or zoning are planned. The rising cost of housing is currently a concern throughout much of the SCAG region and is reflective of the shortage of housing and stagnant incomes. The Los

³⁸ Southern California Association of Governments, 2019

³⁹ Southern California Association of Governments, Connect SoCal, 2019 p. 54.

⁴⁰ SCAG modeling, 2019.

Angeles-Long Beach-Anaheim metro area is considered the most cost-burdened housing market in the nation with 46 percent of renters and owners being cost burdened. As set forth by the Department of Housing and Urban Development, those who spend between 30 to 49 percent of their income on housing costs are considered cost-burdened.⁴¹ As population growth continues to outpace the production of housing units, the existing supply of housing is in higher demand which leads to higher rents/prices. This occurrence may result in displacement of renters and the need for people to move from their present location to an area further from their jobs. But there is no substantial evidence that there is a reasonable method to predict how many people may potentially be displaced over the Plan horizon. Additionally, there is no industry standard methodology available to forecast transportation, air, noise or other impacts associated with people who relocate as result of pricing pressures.

Local jurisdictions, including the City of Los Angeles, are evaluating and implementing responses to help relieve pressures on housing supply (e.g., Affordable Housing Linkage Fee, Accessory Dwelling Units Ordinance, Unapproved Dwelling Unit Ordinance, etc.). As properties are redeveloped, there could be temporary displacement of housing units due to the separation of time between removal and replacement of housing. This impact would be temporary, is expected to be spread over the timeframe of the Plan and would be offset by overall increases in housing development under the Plan.

Displacement of low-income renters is also a concern but it is generally a social and economic impact, which is not an impact analyzed under CEQA unless it results in an indirect physical impact.⁴² An impact from displacement and/or gentrification is only an impact under CEQA if it results in a physical impact to the environment. As identified in Appendix G, those physical impacts could be from construction of new housing. It may also be from transportation or other impacts related to people driving longer distances. As noted above, there is currently no methodology for estimating the number of people who would relocate and identifying where they would relocate to.

In conclusion, despite the proposed land use strategies that could influence more housing development in urbanized areas, the Plan would have the potential to displace substantial amounts of existing housing, necessitating the construction or replacement of housing elsewhere, requiring the consideration of mitigation measures.

⁴¹ Long Beach Post. *Harvard: LA-Long Beach-Anaheim metro is most cost-burdened housing market in the nation.* Available online at: <https://lbpost.com/longbeachize/addison-harvard-metro-housing-cost-burdened-2019>, accessed October 28, 2019.

⁴² *Porterville Citizens for Responsible Hillside Dev. v City of Porterville* (2007) 157 CA4th 885, 903 (claimed impact of new homes on existing home values is economic impact).

Mitigation Measures

SCAG Level Mitigation Measure

See **SMM-POP-4**.

SMM-POP-5: SCAG shall assist cities to identify funding and financing opportunities and potential partnerships for public infrastructure improvements for transit-oriented development and other smart growth projects.

Project Level Mitigation Measures

PMM-POP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the displacement of existing housing, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Evaluate alternate route alignments and transportation facilities that minimize the displacement of homes and businesses. Use an iterative design and impact analysis where impacts to homes or businesses are involved to minimize the potential of impacts on housing and displacement of people.
- b) Prioritize the use existing ROWs, wherever feasible.
- c) Develop a construction schedule that minimizes potential neighborhood deterioration from protracted waiting periods between right-of-way acquisition and construction.
- d) Review capacities of available urban infrastructure and augment capacities as needed to accommodate demand in locations where growth is desirable to the local lead Agency and encouraged by the SCS (primarily TPAs, where applicable).
- e) When General Plans and other local land use regulations are amended or updated, use the most recent growth projections and RHNA allocation plan.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts, but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's inability to require project-level mitigation measures, this PEIR finds impacts related to displacement of existing housing to be significant and unavoidable.

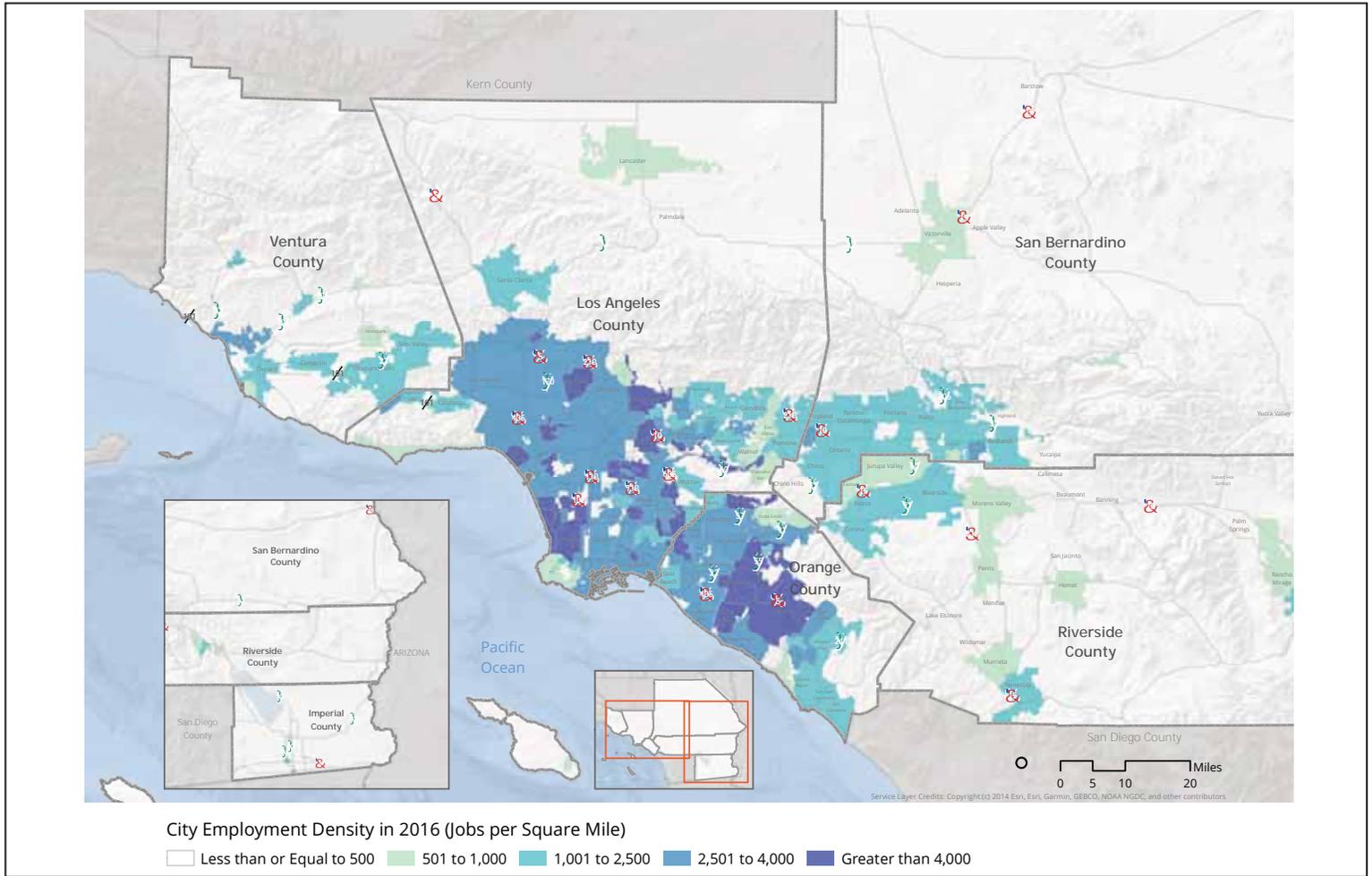


FIGURE 3.14-1

Employment Density in the SCAG Region

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3.15 PUBLIC SERVICES

This section of the Program Environmental Impact Report (PEIR) describes the existing public services within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect public services, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Other fire protection considerations are addressed in **Section 3.20, Wildfire**, in addition emergency access is addressed in **Section 3.17, Transportation, Traffic, and Safety**, and emergency response and evacuation plans are addressed in **Section 3.9, Hazards and Hazardous Materials**.

3.15.1 DEFINITIONS

County Offices of Emergency Services (OES): The County OESs provide emergency management and preparedness services to the unincorporated areas of the six counties within the SCAG region. Each OES is responsible for alerting and notifying appropriate agencies when disaster strikes, coordinating all agencies that respond, ensuring resources are available and mobilized in times of disaster, developing plans and procedures for response to and recovery from disasters, and developing and providing preparedness materials for the public. These responders include fire departments, police and sheriff department, hospitals, ambulance services, and transportation agencies. Coordination among public and private agencies within various cities and counties make the most use of all available resources in the event of any emergency. While each city and county has its own security procedures, the policies are generally similar. Mutual Aid agreements between cities, counties, and private organizations help to maximize resources and reduce the human suffering associated with disaster situations.

Federal Emergency Management Agency (FEMA): FEMA is a federal agency that has served America since 1979 to support U.S. citizens and first responders to ensure that the nation works together to build, sustain, and improve its capacity to prepare for, protect against, respond to, recover from, and mitigate all hazards.¹ FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. FEMA is part of the DHS.

Governor’s Office of Emergency Services (Cal OES): Cal OES is the state agency charged with the responsibility to assist local government in preparing for and responding to any type of natural or

¹ Federal Emergency Management Agency. *About the Agency*. Available online at: <http://www.fema.gov/about-agency>, accessed March 27, 2019.

manmade disaster in California. Cal OES protects the lives and property, build capabilities, and supports communities for a resilient California. Cal OES has six goals relevant to public services: (1) anticipate and enhance prevention and detection capabilities to protect the state from all hazards and threats; (2) strengthen California’s ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events; (3) effectively respond to and recover from both human-caused and natural disasters; (4) enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity; (5) develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond; and (6) strengthen capabilities in public safety communication services and technology enhancements.²

Joint Field Office (JFO): A temporary Federal facility established locally to provide a central point for Federal, State, local, and tribal executives with responsibility for incident oversight, direction, and/or assistance to effectively coordinate protection, prevention, preparedness, response, and recovery actions. In the event of multiple incidents, multiple JFOs may be established at the discretion of the Secretary of Homeland Security.

Master Mutual Aid Agreements (MAA): FEMA encourages federal, state, local, and tribal governments to enter into agreements to assist one another. Immediately following the 1994 Northridge earthquake, city and county emergency managers in the CalOES coastal, southern, and inland regions developed a coordinated emergency management concept called the Emergency Managers Mutual Aid (EMMA) system. The purpose of EMMA is to support disaster operations in affected jurisdictions by providing professional emergency management personnel from unaffected areas to support local jurisdictions, Operational Areas, and regional emergency operations during proclaimed emergencies; providing a system, including an organization, information, and forms necessary to coordinate the formal request, reception, assignment, and training of assigned personnel; establishing a structure to maintain this document (the Emergency Managers Mutual Aid Plan) and its procedures; providing for the coordination of training for emergency managers, including Standardized Emergency Management System (SEMS/NIMS) training, emergency management course work, exercises, and disaster response procedures; and promoting professionalism in emergency management.³

² Governor’s Office of Emergency Services. *About Cal OES*. Available online at: <https://www.caloes.ca.gov/Cal-OES-Divisions/About-Cal-OES>, accessed August 20, 2019.

³ Governor’s Office of Emergency Services. 2012. *State of California Emergency Management Mutual Aid Plan*. Available online at: <https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/EMMA%20PlanAnnexes%20A-F,%202012.pdf>, accessed August 20, 2019.

National Incident Management System/Standardized Emergency Management System (NIMS): The NIMS is a tool for states, counties and local jurisdictions to respond to catastrophic events through better communication and coordination. NIMS provides a consistent nationwide template to enable federal, state, local, and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity, including acts of catastrophic terrorism.⁴

National Preparedness System (NPS): The NPS, also a part of FEMA, is a part of NIM. The NPS is intended to be used by individuals, families, communities, the private and nonprofit sectors, faith-based organizations, and local, state, tribal, territorial, insular area, and federal governments to achieve the National Preparedness Goal.⁵

Transportation Management Centers (TMCs): The California Department of Transportation (Caltrans), in conjunction with the California Highway Patrol (CHP), has created TMCs to rapidly detect and respond to incidents while managing the resulting congestion. For the SCAG region, Caltrans Districts 7, 8, 11, and 12 all have TMCs.⁶

Transportation Security Administration (TSA): The TSA is a component of the DHS and is responsible for security of the nation's transportation systems. The TSA is responsible for security at airports in the SCAG region. With state, local, and regional partners, the TSA oversees security for highways, railroads, buses, mass transit systems, and ports.⁷ A vast majority of its resources are dedicated to aviation security and is primarily tasked with screening passengers and baggage.

Unified Coordination Group (UCG): Unified Coordination Group (UCG) is a temporary federal multi-agency coordination center established locally to facilitate field-level domestic incident management activities related to prevention, preparedness, response and recovery when activated by the Secretary of Homeland Security. The JFO provides a central location for coordination of federal, state, local, tribal, nongovernmental and private-sector organizations with primary responsibility for activities associated with threat response and incident support.⁸

⁴ FEMA. 2017. *National Incident Management System*. Available online at: https://www.fema.gov/media-library-data/1508151197225-ced8c60378c3936adb92c1a3ee6f6564/FINAL_NIMS_2017.pdf, accessed August 20, 2019.

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⁷ Transportation Security Administration. *Surface Transportation*. Available online at: <https://www.tsa.gov/for-industry/surface-transportation>

⁸ FEMA. *Glossary*. Available online at: <https://emilms.fema.gov/IS822/glossary.htm#U>, accessed August 20, 2019.

United States Coast Guard: The Coast Guard is both a federal law enforcement agency and a military force that operates as part of the DHS in times of peace to enforce the nation's laws at sea, protecting the marine environment, guarding the nation's vast coastlines and ports, and performing vital lifesaving missions. In times of war, or at the direction of the president, the Coast Guard serves as part of the Navy Department, defending the nation against terrorism and foreign threats. Since September 2001, the United States Coast Guard has assumed a dynamic role in protecting major ports. In addition, more than 3,500 volunteer Coast Guard Auxiliary members assist in many Coast Guard mission areas, including Boating Safety and Search and Rescue.⁹

United States Department of Defense (DOD): In the case of a large-scale emergency, the DOD is authorized to provide resources when response and recovery requirements are beyond the capabilities of civilian authorities and these efforts do not interfere with the DOD's core mission or ability to respond to operational contingencies. Requests for Defense Support to Civilian Authorities (DSCA) are made through the local, county, and state authorities as a request for assistance to the federal coordinating official in the appropriate lead federal agency and is normally accompanied by, or submitted after a request from the governor for a disaster declaration from the president. The California National Guard may be activated as part of the DSCA and can provide law enforcement support, crisis management, and consequence management services. Activation of the National Guard for local support during emergencies is done by the governor via CalOES.¹⁰

United States Department of Homeland Security (DHS): The DHS was established after the September 11, 2001, terrorist attacks as an office to oversee and coordinate a comprehensive national strategy to safeguard the country against terrorism and respond to any future attacks.¹¹ In 2003, DHS formally became a Cabinet-level department to further coordinate and unify national homeland security efforts. The vision of DHS is to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards.

⁹ U.S. Coast Guard. *The Coast Guard: America's Oldest Maritime Defenders*. Available online at: <https://www.gocostguard.com/about-the-coast-guard/learn-the-history>, accessed August 20, 2019.

¹⁰ U.S. Army Reserve. *Defense Support of Civil Authorities: Inside the Army Reserve*. Available online at: <https://www.usar.army.mil/DSCA/>, accessed August 20, 2019.

¹¹ U.S. Department of Homeland Security. *Creation of the Department of Homeland Security*. Available online at: <http://www.dhs.gov/creation-department-homeland-security>, accessed March 27, 2019.

3.15.1.1 ENVIRONMENTAL SETTING

3.15.1.1.1 Fire Protection Services

Fire protection within the SCAG region includes a variety of federal, state, county, city and local fire protection agencies. The primary fire protection services occur at the community level with city and county fire departments and fire protection districts providing this service. Also serving as fire protection services are a variety of volunteer fire companies. In addition, there are fire protection agencies that provide fire protection services within state and federal lands. These agencies include but are not limited to federal fire agencies (Bureau of Land Management, National Park Service, National Forest Service, Department of Defense, etc.), state forestry department, airport and harbor fire departments, and in some instances business sponsored fire departments (i.e., refineries). Each agency provides fire protection services within their own area of responsibilities, but they can call upon other agencies for fire support through mutual aid agreements. Generally, fire departments take proactive and preventative measures to provide fire suppression and emergency response services for all private, institutional, and public facilities within their area of responsibility.

Wildfires

Section 3.20, Wildfire, discusses in more detail the wildfire hazards and existing conditions within the SCAG region, as well as identifies the regulatory framework with respect to regulations that address wildfire and evaluates the significance of impacts that could result from the proposed Plan.

The wildfire season in southern California typically lasts six to eight months from summer to fall (although climate change has resulted in drier, hotter weather and longer fire seasons). Hazards arise from a combination of hot weather, the accumulation of dried vegetation, and low moisture content in the air. These conditions, if coupled with high winds and drought, can compound the risk and potential impact of a fire. Fires are usually classified as either urban fires or wildland fires. However, growth into rural areas has increased the number of people living in heavily-vegetated areas where wildlands meet urban development, also referred to as the wildland-urban interface. This trend is spawning a third classification of fires: the urban wildfire. A fire along the wildland-urban interface (as was seen recently in Ventura and Los Angeles counties with the Woolsey Fire) can result in major losses of property and structures.

Three major factors sustain wildfires and allow for predictions of a given area's potential to burn. These factors include fuel, topography, and weather. Certain areas in and surrounding the region are extremely

vulnerable to fires as a result of dense, grassy vegetation combined with a growing number of structures being built near and within rural areas. CAL FIRE has developed maps indicating fire hazard severity zones in each county across California.

Urban Fires

Urban fires occur in developed areas and include structural, chemical, and vehicular-related fires. Structural fires can result from mechanical failures, accidental occurrences, or arson. The building materials used in various structures can limit or be a catalyst for the spread of structural fires. Although structural fires can occur in any developed area, non-sprinklered commercial buildings in downtown areas and dwelling units in lower socio-economic areas appear to be more susceptible to fires, namely due to the age of the structures. Older structures are more susceptible to fire because they were built under older building standards and fire codes, are made from non-fire-resistive construction materials, and do not have internal sprinklers or other fire safety systems.

Urban-Wildland Fire

CAL FIRE has compiled a list of cities with Very High Fire Hazard Severity zones and has developed recommendations to local agencies for proper fire management within those areas. Within the SCAG region, Los Angeles County has 38 cities with such zones, Riverside County has 22, Orange County has 20, San Bernardino County has 15 and Ventura County has eight cities that CAL FIRE has recommended establishing Very High Fire Hazard Severity zones.¹

Fire Protection Agencies

Fire suppression is the responsibility of various fire departments and districts, which often also employ paramedics for emergency medical services. The SCAG region has more than 100 county, city, or independent fire entities that provide fire prevention/suppression and emergency services throughout the area. Response times vary amongst the agencies, however urban areas usually maintain a standard around 6-minutes or less while response times in rural areas are around 10 minutes. County service covers unincorporated areas, independent fire districts, and municipalities that contract for fire protection and emergency services.

¹ CAL FIRE. 2019. *Fire Hazard Severity Zones Maps*. Available online at: <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/> , accessed August 20, 2019.

Bureau of Land Management

The Bureau of Land Management (BLM) is a federal agency that manages the nation's subsurface mineral resources under the U.S. Department of the Interior. The land and minerals under BLM authority include, but are not limited to, forests, mountains, and rangelands.

BLM operates the Fire and Aviation program which works with state and field offices to provide a fire and aviation management program. BLM provides coordination with state offices to provide effective interagency activities and policy through the National Interagency Fire Center (NIFC) in Boise, Idaho. BLM's fire and aviation program has three organizational levels: (1) the national office which provides leadership and oversight, and develops policy, procedures and budgets for the fire and aviation program; (2) state offices which are responsible for coordinating policies and interagency activities within their state; and (3) field offices which are responsible for on-the-ground fire management and aviation activities, often partnering with other agencies to maximize rapid initial attack.²

BLM plays a primary role in the nation's wildland fire management efforts and undertakes a broad range of activities to protect the public, natural landscape, wildlife habitat, and recreational areas. BLM trains firefighters in fire suppression, preparedness, predictive services, vegetative fuels management, prescribed fire, community assistance and protection, and education.³

National Park Service

The National Park Service (NPS), a federal agency under the U.S. Department of the Interior, helps manage wildland fires in designated National Parks, such as Joshua Tree National Park. The NPS finds wildfires beneficial to ecosystems, but NPS fire staff are trained and equipped to aggressively put out an unwanted fire when it is necessary for resource protection or public safety.⁴

U.S. Forest Service

The National Forest Service (USFS) is a federal agency under the U.S. Department of Agriculture. Similarly, to the National Park Service, the USFS works with other agencies to manage wildland fires that

² U.S. Bureau of Land Management (BLM). *Fire and Aviation Program*. Available online at: <https://www.blm.gov/programs/public-safety-and-fire/fire-and-aviation>, accessed December 17, 2018.

³ Ibid.

⁴ National Park Service (NPS). 2018. About Us. Available online at: <https://www.nps.gov/aboutus/index.htm>, accessed December 17, 2018.

threaten lives, homes, communities, and natural and cultural resources.⁵ The USFS provides assistance with fire protective services in wildland areas, including Angeles National Forest.

California Department of Forestry and Fire Protection (CAL FIRE)

CAL FIRE is an emergency response and resource protection department that protects lives, property, and natural resources from fire; responds to emergencies of all types, and protects and preserves timberlands, wildlands, and urban forests throughout the State of California, through cooperative efforts via contracts and agreements between state, federal, and local agencies to respond to emergencies including wildland and structure fires, earthquakes, floods, hazardous material spills, medical aids, and terrorist attacks.⁶ CAL FIRE provides fire protection services to California's privately-owned wildlands and works in collaboration with counties and local governments to provide emergency services. CAL FIRE responds to medical aids; hazardous material spills; swiftwater rescues; search and rescue missions; civil disturbances; train wrecks; floods; earthquakes and more.⁷

Office of Emergency Services (OES)

The OES leads the Department of the Interior's emergency management efforts. The OES develops guidelines for emergency preparedness, response, recovery and mitigation to natural, man-made and technological disasters. The State of California has its own OES (Cal OES), which allows for similar efforts of emergency management on a relatively smaller scale.

CAL OES has three administrative regions, Inland, Coastal, and Southern. All of the counties within the SCAG region are located within the Southern Region. Cal OES coordinates disaster response between state agencies and local governments, and offers guidance and assistance for emergency preparedness, response and recovery. In addition, Cal OES manages Emergency Operations Centers (EOC) in various counties across the state and assists local governments in developing emergency plans.⁸

⁵ U.S. Department of Agriculture (USDA). 2018. *U.S. Forest Service*. Available online at: <https://www.fs.fed.us/>, accessed January 5, 2018.

⁶ California Department of Forestry and Fire Protection (CAL FIRE). 2018. *What is CAL FIRE?* Available online at: <https://www.fire.ca.gov/media/4925/whatiscalefire.pdf>, accessed March 22, 2019.

⁷ California Department of Forestry and Fire Protection (CAL FIRE). *CAL FIRE Fire and Emergency Response*. Available online at: <https://www.fire.ca.gov/media/4932/fireandemergencyresponse.pdf>, accessed August 20, 2019.

⁸ California Office of Emergency Services (CAL OES). 2018. *Regional Operations*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/regional-operations>, accessed January 5, 2019.

SCAG County Agencies

Imperial County

Fire protection in Imperial County is managed by the Imperial County Fire Department and OES. The County Fire Department maintains eight stations; these stations are located in the communities of Heber, Seeley, Ocotillo, Palo Verde, Niland, Winterhaven, and the City of the Imperial. Additionally, it contracts fire service with the cities of Brawley, Calipatria, Holtville, Westmorland, Salton City and Salton Sea Beach. Each County station is staffed with a captain, firefighter, and reserve firefighter, and has at least a Type I engine. Average response times are between 8 and 10 minutes.⁹ In addition, the OES provides emergency management services for the County/Operational Area including its seven cities/towns and special districts.¹⁰ Six cities in the county maintain their own fire departments.¹¹

Los Angeles County

The Los Angeles County Fire Department (LACoFD) serves unincorporated areas of the County as well as 59 cities. In addition to emergency response, the LACoFD also conducts field and business inspections, maintains prevention data systems, reviews new plans and projects, and even serves filming and special events industries. The County is divided into three regions, further split into nine divisions and 22 battalions.¹² Response time goals for LACoFD are five minutes or less for urban areas, 8 minutes for suburban areas, and 12 minutes for rural areas. In addition to the County Fire Department, 20 cities in the County maintain their own fire departments.¹³

Orange County

The Orange County Fire Authority (OCFA) was created in 1995, under a Joint Power Authority established among the cities of Buena Park, Cypress, Dana Point, Irvine, Laguna Hills, Laguna Niguel, Lake Forest, La Palma, Los Alamos, Mission Viejo, Placentia, San Clemente, San Juan Capistrano, Seal beach, Stanton, Tustin, Villa Park, and Yorba Linda to provide fire prevention and emergency services to them and unincorporated areas within the County. The cities of Westminster, Laguna Woods, Rancho

⁹ Imperial County. 1992. *General Plan Update Draft Environmental Impact Report*.

¹⁰ Imperial County. 2018. *Fire Department and Office of Emergency Services*. Available online at: <http://www.co.imperial.ca.us/firedept/>, accessed December 19, 2018.

¹¹ FireDepartment.net. 2018. *California Fire Departments*. Available online at: <https://beta.firedepartment.net/directory/california/>, accessed December 19, 2018.

¹² Los Angeles County. 2014. *2035 General Plan Update Draft Environmental Impact Report*. June. Available online at: <http://planning.lacounty.gov/generalplan/ceqa>, accessed August 20, 2019.

¹³ Ibid.

Santa Margarita, and Aliso Viejo also contract with the OCFA. There are 79 OCFA stations across the County and 12 cities maintain their own departments.^{14,15}

Riverside County

Riverside County contracts with CAL FIRE for management of the Riverside County Fire Department (RCFD). The RCFD operates 94 fire stations across six service areas including 21 cities, although more than half of the stations are located in unincorporated areas. Additionally, the CalFire Riverside Unit serves portions of San Diego and Orange counties, and also operates 18 city fire departments and one community services district (CSD) fire department within Riverside County. The RCFD also assists various cities and communities under mutual and automatic aid agreements.¹⁶

San Bernardino County

The San Bernardino County Fire Department has a service area of more than 19,000 square miles and provides fire services to all 24 incorporated cities. The Fire Department maintains 65 active stations across six divisions and provides emergency response and fire protection and prevention services. The San Bernardino County Fire Department also manages hazardous waste programs, performs inspections and plan reviews, and assists with safety procedures at special events. The department is comprised of more than 1,000 personnel and maintains a variety of equipment such as boats, ambulances, Snow Cats, and a helicopter.¹⁷

Ventura County

The Ventura County Fire Protection District (VCFPD) provides fire prevention and suppression and rescue services. The VCFPD serves Camarillo, Moorpark, Ojai, Port Hueneme, Simi Valley and Thousand Oaks, as well as the unincorporated regions, including 860 square miles of forest reserve. The VCFPD is divided into four battalion areas and operates 31 fire stations across the County. The goal for average

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- ¹⁴ Orange County Fire Authority (OCFA). 2018. About Us. Available online at: <https://www.ocfa.org/AboutUs/AboutOCFA.aspx#briefhistory>, accessed December 19, 2018.
- ¹⁵ Orange County. 2018. *Fire Departments*. Available online at: <http://www.ocgov.com/residents/law/safety/fire>, accessed December 19, 2018.
- ¹⁶ County of Riverside. 2015. *General Plan Draft Environmental Impact Report*. January. Available online at: <https://planning.rctlma.org/Zoning-Information/General-Plan/General-Plan-Amendment-No-960-EIRNo-521-CAP-March-2014/Draft-Environmental-Impact-Report-No-521>, accessed August 20, 2019.
- ¹⁷ County of San Bernardino. 2018. *Annual Report*. Available online at: <https://www.sbctfire.org/Portals/58/Documents/About/2017-18AnnualReport.pdf>, accessed December 20, 2018.

response time for the District is under five minutes in urban areas and under seven minutes in rural areas.¹⁸

3.15.1.2 REGULATORY FRAMEWORK

3.15.1.2.1 Federal

Federal Emergency Management Act (FEMA)

FEMA's mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration.¹⁹

Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 (42 U.S.C. § 5121 note) was signed into law to amend the Robert T. Stafford Disaster Relief Act of 1988 (42 U.S.C. §5121-5207). Among other things, this new legislation reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide, and is aimed primarily at the control and streamlining of the administration of federal disaster relief and programs to promote mitigation activities. Some of the major provisions of the Act include:

- funding pre-disaster mitigation activities;
- developing experimental multi-hazard maps to better understand risk;
- establishing state and local government infrastructure mitigation planning requirements;
- defining how states can assume more responsibility in managing the Hazard Mitigation Grant Program (HMGP); and
- adjusting ways in which management costs for projects are funded.

The mitigation planning provisions outlined in Section 322 of the Act establish performance based standards for mitigation plans and requires states to have a public assistance program (Advance Infrastructure Mitigation—AIM) to develop county government plans. The consequence for counties that

¹⁸ Ventura County. 2005. *Draft Environmental Impact Report for Focused General Plan Update*. June. Available online at: <https://www.cityofventura.ca.gov/DocumentCenter/View/2303/Final-EIR-for-the-2005-General-Plan-PDF?bidId=> accessed August 20, 2019.

¹⁹ FEMA. *About the Agency*. Available online at: <https://www.fema.gov/about-agency>, accessed August 20, 2019.

fail to develop an infrastructure mitigation plan is the chance of a reduced federal share of damage assistance from 75 percent to 25 percent if the damaged facility has been damaged on more than one occasion in the preceding ten-year period by the same type of event.²⁰

3.15.1.2.2 State

California Constitution Article XIII Section 35

Section 35 of Article III of the California Constitution at subdivision (a)(2) provides: “The protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services.” Public safety services include fire protection. Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. Proposition 172 directed the proceeds of a 0.50 percent sales tax to be used exclusively for local public safety services. California Government Code (CGC) Sections 30051-30056 provide rules to implement Proposition 172. Section 30056 provides that cities are not allowed to spend less of their own financial resources on their combined public safety services in any given year compared to the 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on fire protection, as well as other public safety services. In *City of Hayward v. Trustee of California State University* (2015) 242 Cal. App. 4th 833, the court found that, Section 35 of Article XIII of the California Constitution requires local agencies to provide fire services and that it is reasonable to conclude that a lead agency will comply with that provision and ensure that public services are provided. (See *City of Hayward v. Trustee of California State University* [2015] 242 Cal. App. 4th 833, 847, stating “the city has a constitutional obligation to provide adequate fire protection services”.)

California Fire Code

Title 24, Part 9 of the California Code of Regulations (CCR) is the California Fire Code. Title 24, Part 9 of the CCR sets forth regulations regarding building standards, fire protection and notification systems, fire protection devices such as fire extinguishers and smoke alarms, high-rise building standards, and fire suppression training. The 2019 California Fire Code is the incorporation of the 2018 International Fire Code of the International Code Council with necessary California amendments. Development under the proposed project would be subject to applicable regulations of the California Fire Code.²¹

²⁰ FEMA. 2000. *Disaster Mitigation Act of 2000*. Available online at: <https://www.fema.gov/media-library-data/20130726-1524-20490-1678/dma2000.txt>, accessed August 20, 2019.

²¹ International Code Council. *2019 California Fire Code, Title 24, Part 9*. Available online at: <https://codes.iccsafe.org/content/CAFC2019>, accessed August 20, 2019.

Title 8 California Code of Regulations Sections 1270 and 6773. In accordance with C.C.R., Title 8 Sections 1270 “Fire Prevention” and 6773 “Fire Protection and Fire Equipment,” the California Occupational Safety and Health Administration (Cal OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.²²

Title 14 California Code of Regulations Division 1.5. These regulations constitute the basic wildland fire protection standards of the California Board of Forestry. They have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in state recreation areas. Title 14 regulates that the future design and construction of structures, subdivisions, and developments in a state recreation area shall provide for basic emergency access and perimeter wildfire protection measures.²³

Uniform Fire Code

The Uniform Fire Code (UFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 *et seq.* of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices, and fire suppression training.²⁴

²² State of California Department of Industrial Relations. §6773. Fire Protection and Fire Fighting Equipment. Available online at: <https://www.dir.ca.gov/title8/6773.html>, accessed August 20, 2019.

²³ Board of Forestry. *SRA Fire Safe Regulations, 2020: 14 CCR Division 1.5, Chapter 7 Fire Protection, Subchapter 2, Articles 1-5. SRA Fire Safe Regulations.* Available online at: https://bofdata.fire.ca.gov/media/8001/rule_plead.pdf, accessed August 20, 2019.

²⁴ California Legislative Information. *Division 12. Fires and Fire Protection.* Available online at: https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=HSC&division=12.&title=&part=&chapter=&article=, accessed August 20, 2019.

Mutual Aid Agreements (MAA)

The Emergency Managers Mutual Aid (EMMA) system is a collaborated effort between city and county emergency managers in the OES in the coastal, southern, and inland regions of the state. EMMA provides service in the emergency response and recovery efforts at the Southern Regional Emergency Operations Center (REOC), local Emergency Operations Centers (EOCs), the Disaster Field Office (DFO), and community service centers. The purpose of EMMA is to support disaster operations in affected in affected jurisdictions by providing professional emergency management personnel. In accordance with the Master Mutual Aid Agreement, local and state emergency managers have responded in support of each other under a variety of plans and procedures.²⁵

California Code of Regulations Division 2 Section 16

The State of California passed legislation creating the California Emergency Management Agency (Cal EMA) and authorizing it to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Cal EMA serves as the lead state agency for emergency management in the state. Cal EMA coordinates the state response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the state through the statewide mutual aid system. In California, the Standardized Emergency Management System (SEMS) provides the mechanism by which local government requests assistance. Cal EMA serves as the lead agency for mobilizing the state's resources and obtaining federal resources; it also maintains oversight of the state's mutual aid system.²⁶

²⁵ Governor's Office of Emergency Services. 2012. *State of California Emergency Management Mutual Aid Plan*. Available online at: <https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/EMMA%20PlanAnnexes%20A-F,%202012.pdf>, accessed August 20, 2019.

²⁶ California Code of Regulations. *Chapter 1. Standardized Emergency Management System (SEMS)*. Available online at: [https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IB04B06CEE354CF78940961DF532ECAA&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IB04B06CEE354CF78940961DF532ECAA&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)), accessed August 20, 2019.

2018 Strategic Fire Plan for California

Strategic Fire Plans in California have been developed since the 1930s by the Board of Forestry and Fire Protection. The Plan is periodically updated to guide CAL FIRE in providing statewide fire protection of state responsibility areas. The 2018 Plan, an update to the 2010 Plan, reflects the effects of climate change and other environmental changes in the State. The 2018 Plan focuses on fire prevention and suppression, natural resource management, and the collaboration of fire protection and emergency service providers.²⁷

California Vehicle Code 21806 VC

California Vehicle Code 21806 VC states that drivers in California must yield to emergency vehicles when they are using sirens and have at least one visible red light. This is to ensure that emergency vehicles safe and timely access for emergency vehicles as they respond to emergency calls.

3.15.1.2.3 Local

County and City General Plan Safety Elements and Public Services and Facilities Elements

In addition to federal and state regulations, cities and counties in the SCAG region also provide regulatory protection and advisement regarding public safety and associated public services. California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to public services into the Safety Element. Other jurisdictions choose to prepare a separate (optional) element dealing with public services and facilities issues.

California Code of Regulation Section 65302(g) specifically provides that a city may adopt the county's safety element if the county's element "is sufficiently detailed containing appropriate policies and programs for adoption by a city." The safety element must include methods to reduce the potential risk of fires, floods, earthquakes, landslides, and other hazards. Other locally relevant safety issues, such as emergency response, hazardous materials spills, and crime reduction, may also be included.²⁸ Some local jurisdictions have also incorporated their hazardous waste management plans into their safety elements. In addition, the safety element may be used to establish programs and policies that promote

²⁷ State Board of Forestry and Fire Protection. 2018. *2018 Strategic Fire Plan for California*. Available online at: https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf, accessed August 20, 2019.

²⁸ California Legislative Information. 1965. *ARTICLE 5. Authority for and Scope of General Plan [65300-65303.4]*.

neighborhood, institutional, governmental, and business safety. The safety element must identify and map urban fringe and rural-residential areas that are prone to wildfires, adequate evacuation routes and peak load water supplies to reduce fire hazards. The policies of the safety element form the basis of adopted fire safe ordinances and strategic fire defense system zoning. Several jurisdictions have also adopted a Public Services and Facilities Element that establishes goals, objectives, policies and standards for public services and utilities, including emergency response standards.

The safety elements and public services and facilities elements of the county general plans within the six-county SCAG region establish the following fire protection service standards at a County level:

Imperial County

Fire Response Standards: The Imperial County General Plan does not establish fire response standards for unincorporated areas.²⁹ Incorporated cities within Imperial County have established fire response standards. For instance, the City of El Centro's standard fire response time is approximately 7 to 10 minutes for emergencies and 10 to 15 minutes for non-emergencies.³⁰

Los Angeles County

Fire Response Standards: According to the Safety Element of the Santa Clarita Valley Area Plan, the Los Angeles County Fire Department (LACFD) has adopted a goal of responding to calls in urban areas within five minutes, in suburban areas within eight minutes, and in rural areas within 12 minutes (Policy S3.3.1).³¹ Incorporated cities within Los Angeles County have also established fire response standards.

Orange County

Fire Response Standards: In accordance with the Insurance Services Office (ISO) suggested standards, ultimate fire protection rating shall be maintained by Orange County's General Plan land use categories as follows: (1) ISO 3 for all urban developments including Residential (1C and 1B), Commercial (2A and 2B), Employment (3.0) and Public Facilities (4.0) which are within 5 miles from a fire station and less than 1,000 feet from a hydrant; and (2) ISO 4 for Rural Residential (1A) which are within 5 miles from a fire station and less than 100 feet from a hydrant. For areas greater than 5 miles or 1,000 feet, the ISO

²⁹ County of Imperial Planning & Development Services. *General Plan: Seismic and Public Safety Element*. Available at: <http://www.icpds.com/?pid=837>, accessed November 5, 2018.

³⁰ City of El Centro. *El Centro General Plan: Safety Element*. Available at: <http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf>, accessed November 5, 2018.

³¹ County of Los Angeles Department of Regional Planning. *Santa Clarita Valley Area Plan, 2012*. Available at: http://planning.lacounty.gov/assets/upl/data/pd_santa-clarita-area-plan-2012.pdf, accessed November 5, 2018.

suggested standard is 9. Fire/paramedic facilities shall be sited in locations so as to assure efficient fire rescue and paramedic response for the service area. General criteria for site selection shall include:³²

- Call response time: for 80 percent of the service area, first fire engine to reach the emergency scene within 5 minutes and paramedic to reach the scene within 8 minutes
- Land use compatibility: stations shall be located in commercial or industrial, or open space zones in order to avoid disturbance to residential areas wherever possible
- Street access: stations shall be located adjacent to arterial highways with controlled traffic signalization

Incorporated cities within Orange County have also established fire response standards.

Riverside County

Fire Response Standards: According to the Riverside County Fire Department Strategic Plan 2009-2029, the Riverside County Fire Department considers National Fire Protection Association (NFPA) Standard 1710 as a guideline for fire station location methodology, which calls for an engine company within 4 minutes of travel time to fire incidents and EMS calls, and a full first-alarm group within 8 minutes, all for a minimum of 90 percent of annual incidents.³³ Incorporated cities within Riverside County have also established fire response standards.

San Bernardino County

Fire Response Standards: The San Bernardino County Fire Department established fire response standards for unincorporated areas, depending on service area type. For example, the response goal for urban areas is less than 4 minutes for the first arriving unit and for rural areas the response goal is 10 minutes for the first arriving unit.³⁴ Incorporated cities within San Bernardino County have established fire response standards.

³² OC Development Services. *Orange County General Plan: Chapter V. Public Services & Facilities Element*. Available at: <http://www.ocpublicworks.com/ds/planning/generalplan>, accessed November 5, 2018.

³³ Management Partners, Incorporated. *Riverside County Fire Department Strategic Plan 2009- 2029*. Available at: <http://www.rvcfire.org/stationsAndFunctions/AdminSppt/StrategicPlanning/Documents/StrategicPlan2009.pdf>, accessed November 5, 2018.

³⁴ San Bernardino County Fire Department. 2009. *Service Level and Deployment Goal Report*.

Ventura County

Fire Response Standards: The Ventura County Fire Protection District’s goal is to maintain an average emergency response time under five minutes in urban areas and under seven minutes in rural areas.³⁵ Incorporated cities within Ventura County have also established fire response standards.

3.15.1.3 ENVIRONMENTAL IMPACTS

3.15.1.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Connect SoCal Plan would result in significant impacts to fire protection services, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.1.3.2 Methodology

The methodology for determining the significance of impacts on fire services compares existing conditions to the expected future use of fire service under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level.

The need for or deficiency in adequate fire and emergency response services in and of itself is not a CEQA impact, but a social or economic impact. (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843. In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan promotes growth patterns resulting in a need for additional fire protection services that results in the construction of new facilities or additions to existing facilities. The impact from that construction and/or facilities operation would result in a potential impact to the environment. An increase in population, by itself, would not increase demand for fire protection services and associated facilities. Fire protection service needs are dependent on various factors, including the size of the service population and the geographic area served, the number and types of calls for service, the characteristics of a project and its surrounding community as well as available existing facilities and staffing in an area. This PEIR, analyzes the potential for the Plan to result in the need for new fire protection service facilities (i.e., fire stations) and

³⁵ Ventura County Planning Division. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: <https://cdm16255.contentdm.oclc.org/digital/collection/p266301ccp2/id/546>, accessed November 5, 2018.

the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.15.1.3.3 Impacts and Mitigation Measures

Impact PSF-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

Significant and Unavoidable Impacts - Mitigation Required.

Impacts to fire protection services are associated with the physical impacts that would occur as a result of construction and operation of new facilities. Service ratios and response times are tools jurisdictions use to determine the need for such facilities, but do not necessarily indicate a significant impact under CEQA. The ability to provide adequate fire protection services is dependent on numerous factors including staffing levels, mutual aid agreements, deployment strategies, and technological advances in equipment. In conformance with California Constitution Article XIII Section 35(a)(2), existing policies, procedures, and practices related to fire protection and emergency services, fire departments would maintain acceptable emergency response times through the provision of additional personnel and equipment as needed, as well as potentially constructing new or expanding existing fire and emergency response facilities.

As described above, fire and emergency services in the SCAG region are provided by numerous agencies within multiple jurisdictions. Depending upon the timing, location, and duration of construction activities, several of the proposed projects, including grade crossings, arterials, interchanges, and

auxiliary lanes, as well as development project construction could delay emergency vehicle response times or otherwise disrupt delivery of emergency services.

Each jurisdiction has a methodology for determining appropriate response times, service ratios and needed facilities. As transportation projects and development projects are constructed, depending upon the timing, location, and duration of construction activities, projects, including grade crossings, arterials, interchanges, widenings, HOV and HOT lanes, as well as development projects could result in temporary changes in demand for fire services and fire vehicle response times.

The transportation projects included in the Plan that involve transit, passenger rail, and active transportation are concentrated in urban and suburban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these urban and suburban areas increase in density, additional fire protection and emergency response services and associated facilities would be required to meet emergency response standards. Such increased density in these areas would have the potential to exceed the capacity of existing fire stations to provide adequate response, thus requiring either the expansion of existing stations to accommodate additional equipment and greater number of personnel or the construction of new stations, which are more strategically located and capable of reducing response time within a denser urban pattern of development. In addition, fire protection and emergency response services may need to be able to expand where development occurs in the wildland/urban interface in response to increased wildfire risk.

Construction activities associated with transportation and development projects may temporarily increase demand on fire protection and emergency medical services. Construction activities could potentially expose combustible materials (e.g., wood, plastics, sawdust, coverings, and coatings) to fire risks from machinery and equipment sparks, exposed electrical lines, chemical reactions in combustible materials and coatings and lighted cigarettes. However, in compliance with Cal-OSHA requirements, construction managers and personnel for individual development projects would be trained in emergency response and fire safety operations. Additionally, fire suppression equipment (e.g., fire extinguishers) specific to construction are required to be maintained on individual development sites.

By closing off one or more lanes of a roadway, response times could temporarily and intermittently increase as fire vehicles take longer routes due to construction activity. The closure of lanes could also potentially cause traffic delays and inhibit access when responding to service calls. Generally, impacts to emergency response vehicles during construction activities are reduced through adherence to roadway encroachment permits. Traffic control plans are typically required to further reduce impacts on traffic which would also reduce impacts to fire and emergency response vehicles. Refer to **Section 3.17**,

Transportation, Traffic, and Safety, for Mitigation Measures **SMM-TRA-1**, **PMM-TRA-1**, and **PMM-TRA-2**, which pertain to issues of this nature. These impacts would be brief in nature and would be unlikely to result in a determination by a jurisdiction that new facilities would be required. Therefore, construction impacts would be less than significant.

By 2045, the Plan area would grow by approximately 3.2 million people with 60 percent of new homes and 73 percent of new jobs in Growth Priority Areas which are primarily areas that are currently developed. As such, existing facilities and services could become overburdened during the lifetime of the Plan.

While the Plan would increase traffic on local roadways, there is no direct relationship between increased travel delay and emergency response times; California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed (CVC 21806). The impact on response times and overall fire service is not proportional to increasing traffic (see **Section 3.17, Transportation, Traffic and Safety**). Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays.

In some cases, depending on the pattern of development, it could be necessary to construct new facilities to maintain adequate response times, equipment, and personnel. While construction of fire protection facilities does not typically result in substantial environmental impacts,³⁶ the location, size, design, and proximity to sensitive receptors of new facilities are currently unknown. Construction and operation of fire stations could have impacts similar to other development projects analyzed throughout this PEIR, including impacts to aesthetics, air quality, noise, cultural resources, and utilities. Noise impacts of emergency service provider facilities, which are unique to this type of operation, can affect nearby sensitive receptors but such impacts are unpredictable at this time. In any event, construction of these facilities would comply with all applicable laws, regulations, and ordinances, and mitigation measures would be required to address any potentially significant impacts.

³⁶ Fire protection facilities are generally anticipated to be located on infill lots that are between 0.5 and 1 acre in size. In urbanized areas new facilities would not involve expansion of the urban sphere beyond current boundaries and, thus, there would be no need for new or expanded infrastructure. As an example, in the City of Los Angeles, there are four basic configurations for fire stations, the typical standard fire/paramedic station consists of a 15,250-square foot building on a parcel that is approximately one acre. Based on the urban location and the relatively small size of typical facilities, the construction of a new fire facility or expansion of an existing facility would likely qualify for an infill exemption or result in less-than-significant impacts with standard regulatory compliance measures and design features.

While the PEIR analyzes anticipated effects of regional transportation projects and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development (e.g., more families living and/or working there), implementation of Connect SoCal could affect the need for construction of new or physically altered fire protection and emergency response facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM PSP-1** through **SMM PSP-4**.

SMM PSF-1): SCAG shall assist planners, first responders, and recovery teams in a supporting role, in three key areas, before a major emergency and during the recovery period:

- Provide a policy forum to help develop regional consensus and education on security policies and emergency responses.
- Assist in expediting the planning and programming of transportation infrastructure repairs from major disasters.
- Encourage integration of transportation security measures into transportation projects early in the project development process by leveraging SCAG's relevant plans, programs, and processes, including regional ITS architecture. An example includes SCAG's participation in the development of the Southern California Catastrophic Earthquake Preparedness Plan.³⁷

SMM PSF-2: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (data regarding fire-resistant vegetation, fire-resistant materials, locations where development is potentially hazardous in regard to wildfire, and management of brush and other fire risks in the immediate vicinity of development in areas with high fire threat) with county and city planning departments.

³⁷ California Emergency Management Agency, *Southern California Catastrophic Earthquake Response Plan*, December 2010
[https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops\(Public\)2010.pdf](https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/SoCalCatastrophicConops(Public)2010.pdf),
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Project Mitigation Measures

See PMM-PSP-1.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered fire protection facilities could be significant and unavoidable even with implementation of mitigation.

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3.15.2.1 ENVIRONMENTAL SETTING

3.15.2.1.1 Police Protection Services

Law enforcement is provided by a variety of federal, state, county, city, and other local law enforcement agencies. Primary law enforcement is at the community level, with city police and County Sheriff's departments providing this service. Additionally, there are more specialized law enforcement agencies that assist in law enforcement at the community or resource level. These specialized agencies include, but are not limited to State Highway Patrol, School Police, Airport Police, Transit Police, Park Rangers (federal, state, County, and City), and a wide variety of federal agencies (FBI, ATF, etc.). In general, law enforcement agencies provide first response to all emergencies, perform preliminary investigations, and provide basic patrol services in their service area.

California Highway Patrol (CHP)

The California Highway Patrol (CHP) is a statewide law enforcement agency with jurisdiction over all highways and city roads. CHP officers are responsible for responding to car crashes, disabled vehicles, and other impediments to traffic flow. Although its primary mission is related to transportation, the CHP has broad enforcement power over state law.

Imperial County

Imperial County receives police protection from the Imperial County Sheriff's Office (ICSO), headquartered in El Centro. Substations are located in Niland, Ocotillo, Palo Verde, Salton City, and Winterhaven. The ICSO employs approximately 125 sworn officers and 95 personnel for an officer-to-resident ratio of about 1.5 sworn officers per 1,000 persons. The response time for priority and non-priority calls is approximately 10 to 12 minutes.¹ Additionally, each city in the County maintains its own police departments to serve their incorporated areas.

Los Angeles County

Law enforcement in Los Angeles County is provided by the Los Angeles Sheriff's Department (LASD), which is headquartered in the City of Los Angeles. With nearly 18,000 employees, LASD is the largest

¹ Imperial County. 1993. *Imperial County General Plan Environmental Impact Report*. Available at: <http://www.icpds.com/CMS/Media/I-References,-Persons,-Agencies-Consulted.pdf>, accessed September 18, 2019.

sheriff's department in the U.S. LASD provides general law enforcement services to unincorporated Los Angeles County as well as contracted cities. Of the County's 88 municipalities, 42 contract with LASD for local police protection. LASD also provides services to 216 facilities, hospitals, and clinics, nine community college, the Metropolitan Transit Authority, and 37 Superior Courts. LASD desired officer-to-population ratio is one officer per 1,000 residents. The LASD's goal response time for emergency calls is 10 minutes or less.²

Orange County

The Orange County Sheriff-Coroner Department (OCSD) provides police services to unincorporated areas of Orange County as well as contracting cities of Aliso Viejo, Dana Point, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Stanton and Villa Park. The OCSD headquarters are located in the City of Santa Ana. The department is split into five divisions: North, South, and West Operations Divisions, the Airport Division, and the Harbor Patrol division. The OCSD is a large, multi-faceted law enforcement agency served by approximately 3,800 sworn and professional staff members and over 800 reserve personnel.³ The OCSD provides first responder patrol services and hazardous devices services to all law enforcement agencies in the County.

Riverside County

The Riverside County Sheriff's Department provides community policing and operates the County's correctional facilities. The Department is headquartered in the City of Riverside and provides services to the unincorporated areas of the County as well as the cities of Calimesa, Canyon Lake, Coachella, Eastvale, Indian Wells, Jurupa Valley, Lake Elsinore, La Quinta, Menifee, Moreno Valley, Morongo Indian Reserve, Norco, Palm Desert, Perris, Rancho Mirage, San Jacinto, Temecula, Wildomar. The Department employs approximately 4,500 people, roughly 2,300 of which are sworn personnel. There are nine Sheriff Department stations throughout the County and five adult correction or detention centers. The Department has established a staffing requirement of one sworn officer per 1,000 population.⁴

² Los Angeles County. 2014. *General Plan Update Draft Environmental Impact Report*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf, accessed September 9, 2019.

³ Orange County Sheriff's Department. *About OCSD*. Available online at: http://www.ocsd.org/about_ocsd, accessed September 18, 2019.

⁴ County of Riverside. 2014. *County of Riverside Environmental Impact Report for the 2014 General Plan*. March.

San Bernardino County

The San Bernardino County Sheriff's Department (SBCSD) polices the largest geographical county in the nation. It serves over 2.1 million residents across 15 patrol stations. SBCSD employs over 3,800 employees and utilizes over 1,800 volunteers. The SBCSD also maintains three correctional facilities: the West Valley Detention Center in Rancho Cucamonga; the Glen Helen Rehabilitation Center, a two unit, male and female-inmate facility in Devore; and, the Central Rehabilitation Center that houses federal inmates for the United States Marshall Service located in the City of San Bernardino.⁵

Ventura County

The Ventura County Sheriff's Office provides primary law enforcement services in unincorporated areas of Ventura County and the contract cities of Ojai, Thousand Oaks, Camarillo, Moorpark and Fillmore. This jurisdiction makes up almost 95 percent of the County's land area and approximately half of the population. The Department is divided into seven divisions, based on location, and is headquartered at 800 South Victoria Avenue in the City of Ventura. The Sheriff's Office employees approximately 1,250 personnel, including allocations for more than 740 sworn positions.

3.15.2.2 REGULATORY FRAMEWORK

3.15.2.2.1 State

All law enforcement agencies within the State of California are organized and operate in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under state law, all sworn municipal and county officers are state peace officers.

California Constitution, Article XIII Section 35.

Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. It directed the proceeds of a 0.50 percent sales tax to be used exclusively for local public safety services, including police. CGC §§30051-30056 provide rules to implement Proposition 172. Section 30056 provides that a city is not allowed to spend less of its own financial resources on its combined public safety services in any given year compared to its 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on police protection, as well as other

⁵ San Bernardino County Sheriff's Department. 2017. *2017 Annual Report* Available online at: http://wp.sbcounty.gov/sheriff/wp-content/uploads/sites/17/2017-annual-report_reduced.pdf, accessed August 28, 2019.

public safety services. As discussed in the Regulatory Framework” for Fire Protection and Emergency Services, in the *City of Hayward v. Trustee of California State University* (2015) 242 Cal. App. 4th 833, the court found that, Section 35 of Article XIII of the California Constitution requires local agencies to provide fire services and that it is reasonable to conclude that a lead agency will comply with that provision and ensure that public services are provided. It is reasonable to analogize that a similar analysis would apply to police services as Section 35 of Article XIII includes a responsibility for cities to give priority to public safety services, which includes police services. See the “Regulatory Framework” for Fire Protection and Emergency Services, above, for further discussion.

California Penal Code

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under state law, all sworn municipal and county officers are state peace officers.

California Emergency Services Act

In 2008, Governor Schwarzenegger signed AB 38, the California Emergency Services Act, which merged the duties, powers, purposes, and responsibilities of the Governor’s Office of Emergency Services and the Governor’s Office of Homeland Security into a new cabinet-level agency, the California Emergency Management Agency (Cal EMA).⁶ Cal EMA is responsible for assuring the state’s readiness to respond to and recover from natural, human-made, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. The legislation authorizes Cal EMA to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters.⁷ Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Cal EMA serves as the central contact point in the state for any emergency or imminent disaster. It coordinates the notification of appropriate state administering agencies that may be required to respond, as well as the emergency activities of all state agencies in the event of an emergency. In doing so, Cal EMA does not focus on security specifically, but rather more broadly on addressing all potential incidents

⁶ California Legislative Information. *Assembly Bill No. 38*.

⁷ California Emergency Management Agency. *SEMS Guidelines*. Available online at: <https://www.caloes.ca.gov/PlanningPreparednessSite/Documents/12%20SEMS%20Guidelines%20Complete.pdf>, accessed August 28, 2019.

that could impact the state, such as earthquakes, fires, floods, and terrorist attacks. Furthermore, Cal EMA coordinates with federal agencies, such as the DHS and FEMA, as well as other state and local agencies such as the CHP. California’s vision, mission, and principles for emergency management, as well as goals and objectives are located in its publication “Strategic Plan 2010-2015 – Keeping California Safe.”⁸

While Cal EMA serves as the lead State agency for emergency management and coordinates the State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. SEMS provides the mechanism by which local government requests assistance from Cal EMA, and as such, Cal EMA maintains oversight of the State’s mutual aid system. Cal EMA may task State agencies to perform work outside their day-to-day and statutory responsibilities and serves as the lead agency for obtaining federal resources.

13 California Code Regulations Division 2

Division 2 of Title 13 of the California Code Regulations (CCR) governs the operations of the California Highway Patrol.⁹

California Vehicle Code 21806 VC

California Vehicle Code 21806 VC states that drivers in California must yield to emergency vehicles when they are using sirens and have at least one visible red light. This is to ensure that emergency vehicles safe and timely access for emergency vehicles as they respond to emergency calls.

3.15.2.2.2 Local

County and Cities General Plan and Safety Elements

Local planning policies related to public services and recreation are established in each jurisdiction’s general plan. In general, jurisdictions have policies in place that state that public services must be provided at the same time (or in advance of) need for that service. In addition to these general policies,

⁸ California Emergency Management Agency. 2015. *Strategic Plan 2014-2018*. Available online at: [https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20\(FINAL\).pdf](https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20(FINAL).pdf), accessed March 22, 2019.

⁹ California Code of Regulations. *Division 2. Department of the California Highway Patrol*. Available online at: [https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IDC5A8260D46811DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IDC5A8260D46811DE8879F88E8B0DAAAE&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)), accessed August 28, 2019.

jurisdictions may have more specific policies tailored to performance objectives, such as those outlined below.

Policies and strategies for police protection services generally include language pertaining to the development of law enforcement programs to reduce and control crime, the planning of future law enforcement facilities concurrently with growth, and the prevention of crime through education. Many jurisdictions also have specific goals, such as a maintaining a certain ratio of sworn officers to citizens, reducing response times, or reducing the overall number of crimes in the community.

Applicable County General Plan elements regarding police protection are identified below.

Imperial County

Police Response Standards: The Imperial County General Plan does not establish police response standards for unincorporated areas.¹⁰ However, individual jurisdictions have set standards, for instance, the El Centro Police Department's goal is to have 1.75 police officers per 1,000 population.¹¹

Los Angeles County

Police Response Standards: To effectively and efficiently fulfill all of its functions, the Sheriff's Department requires a staff level of one deputy sheriff per each 1,000 population.¹² Incorporated cities within Los Angeles County have also established police response standards.

Orange County

Police Response Standards: The adequacy of Sheriff service for land use proposals is determined through the Environmental Impact Report (EIR), Fiscal Impact Report (FIR), and Annual Monitoring Report (AMR) review processes.¹³ Incorporated cities within Orange County have also established police response standards.

¹⁰ County of Imperial Planning & Development Services. *General Plan: Seismic and Public Safety Element*. Available online at: <http://www.icpds.com/?pid=837>, accessed November 5, 2018.

¹¹ City of El Centro. *El Centro General Plan: Safety Element*. Available online at: <http://www.cityofelcentro.org/userfiles/file/SafetyElement.pdf>, accessed November 5, 2018.

¹² County of Los Angeles Department of Regional Planning. *General Plan: Chapter 12: Safety Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf, accessed November 5, 2018.

¹³ OC Development Services. *Orange County General Plan: Chapter V. Public Services & Facilities Element*. Available online at: <http://www.ocpublicworks.com/ds/planning/generalplan>, accessed November 5, 2018.

Riverside County

Police Response Standards: The Riverside County Sheriff's Department has established a goal of maintaining 1.5 sworn officers per 1,000 population, as recommended by the International City Managers' Association (Riverside County Integrated Project (RCIP)).^{14,15} According to EIR No. 441 for the 2003 RCIP General Plan, the Riverside County Sheriff's Department has established the following criteria for its staffing requirements in unincorporated areas of Riverside County:¹⁶

- One sworn officer per 1,000 population (Mitigation Measure 4.15.C for EIR No. 441 specifies the use of a 1.5-officer per 1,000 population standard for new development mitigation purposes)
- One supervisor and one support staff employee per seven officers
- One patrol vehicle per three sworn officers
- One school resource officer per school

Incorporated cities within Riverside County have also established police response standards. For instance, the City of Riverside endeavors to provide minimum response times of seven minutes on all Priority 1 calls and 12 minutes on all Priority 2 calls (Policy PS-7.5).¹⁷

San Bernardino County

Police Response Standards: The San Bernardino County General Plan does not establish police response standards for unincorporated areas.¹⁸ Incorporated cities within San Bernardino County have established police response standards. For example, the City of Redlands desires a response time of 4-5 minutes.¹⁹

¹⁴ California Public Utilities Commission. *Devers-Mirage 115 kV Subtransmission System Split Project (A.08-01-029) Draft Environmental Impact Report*. Available online at: <https://www.cpuc.ca.gov/Environment/info/esa/devers-mirage/deir/Devers-MirageDEIR.pdf>, accessed November 5, 2018.

¹⁵ Riverside County Integrated Project. 2003. *General Plan Final Program Environmental Impact Report*. State Clearinghouse No. 2002051143. Available online at: <http://planning.rctlma.org/Portals/0/genplan/content/eir/volume1.html>, accessed November 5, 2018.

¹⁶ Ibid.

¹⁷ City of Riverside. *Riverside General Plan 2025: Public Safety Element*. Available online at: http://www.riversideca.gov/planning/gp2025program/GP/10_Public_Safety_Element.pdf, accessed August 28, 2019.

¹⁸ County of San Bernardino Land Use Services Division. 2007. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed November 5, 2018.

¹⁹ City of Redlands. 2017. *City of Redlands General Plan 2035*. Available online at: <https://www.cityofredlands.org/sites/main/files/file-attachments/gp2035.pdf>, accessed September 9, 2019.

Ventura County

Police Response Standards: The Ventura County General Plan does not establish police response standards for unincorporated areas.²⁰ Incorporated cities within Ventura County have established police response standards. For instance, the City of Fillmore has established a desired level of one patrol officer per 1,000 population.²¹

3.15.2.3 ENVIRONMENTAL IMPACTS

3.15.2.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan would result in significant impacts to police protection services, if any of the following would occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.2.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of police services under the Plan. A review of existing police facilities was conducted to determine the potential need for new or expanded facilities. This analysis was undertaken at the regional level and appropriately does not include details for each jurisdiction within the region. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level.

The need for or deficiency in adequate police services in and of itself is not a CEQA impact, but a social or economic impact (*City of Hayward v. Bd of Trustees* [2015] 242 Cal.App. 4th 833, 843). In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan promotes growth patterns resulting in a need for additional police services that results in the construction of new facilities or additions to existing facilities. The impact from that construction and/or facilities operation would result in a potential impact to the environment. An increase in population, by itself, would not increase demand for police protection

²⁰ Ventura County Planning Division. 2015. *Ventura County General Plan: Public Facilities & Services Appendix*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf>, accessed November 5, 2018

²¹ City of Fillmore, California. 1998. *General Plan 1988-2010 – Chapter VII: Public Facilities Element*. Available at: <http://www.fillmoreca.com/home/showdocument?id=187>, accessed November 5, 2018.

services and associated facilities. Police service needs are dependent on various factors, including the size of the service population and the geographic area served, the number and types of calls for service, the characteristics of a project and its surrounding community as well as available existing facilities and staffing in an area. This PEIR, analyzes the potential for the Plan to result in the need for new police protection facilities (i.e., police stations) and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

The mitigation measures in the PEIR are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.15.2.3.3 Impact and Mitigation Measures

Impact PSP-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, need for new or physically altered police facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Impacts to police protection services are associated with the physical impacts that could occur as a result of construction and operation of new facilities. Service ratios and response times are one tool jurisdictions use to determine the need for such facilities, but do not necessarily indicate a significant impact under CEQA.

New LRT and commuter rail routes/extensions in Los Angeles, Orange, Riverside, and San Bernardino counties, as well as transit-related projects, would involve the development of new transit stations. Operation of these new transit stations would require public protective security services. In some cases, such as with Metro, the governing transit authority, provides security as an element of the project, which would reduce the need for public protective security services. Overall, the Plan's strategies to encourage increased transit use could also result in an increased need for protective security services.

The Plan also includes transportation projects and land use strategies that focus new growth in HQTAs and encourage more walkable, mixed-use communities. According to the Plan, it is projected that approximately 48 percent of the new household growth and 59 percent of the new employment growth would be planned in HQTAs. These HQTAs are concentrated in suburban and urban areas, including Palm Springs, Riverside, San Bernardino, Anaheim, Irvine, the Los Angeles Basin, the San Gabriel Valley, the San Fernando Valley, Santa Clarita, Palmdale, and Lancaster. As these areas experience more people working and living there, additional police services would be required. As a result, the Plan would have a potential to increase the need for public protective services, usually in proportion to densified environment. This would likely increase the staffing of sworn officers and create a potential need to construct new stations to ensure acceptable levels of service that would have the potential to result in physical alterations and related significant effects on the environment. As discussed in **Section 3.15.1 Public Services, Fire**, it is also the case that the construction of police protection facilities does not typically result in substantial environmental impacts, however the location, size, design, and proximity to sensitive receptors of new facilities are currently unknown.

Police services are provided by several agencies within multiple jurisdictions. Local agencies are required to determine the degree of impact to police services and comply with county and city requirements to protect public safety.

While the Plan would increase traffic on local roadways, there is not a direct relationship between predicted travel delay and emergency response times as California State law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed (CVC 21806). Generally, multi-lane arterial roadways allow emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. On congested roadways, multi-lane arterial roadways with continuous center left-turn lanes facilitate emergency access when the thru lanes experience delays. Additionally, several jurisdictions can re-signal timing remotely for police operations during planned events, such as special events.

In some cases, depending on the pattern of development, it could be necessary to construct new facilities to maintain adequate response times, equipment, and personnel. Construction of police protection facilities themselves may not result in environmental impacts (depending on the size of the facility). In planning new facilities, local jurisdictions take in to account growth projections.

Construction sites can pose an attractive nuisance with respect to vandalism and theft. Depending upon the timing, location, and duration of construction activities, several of the proposed transportation projects, including grade crossings, arterials, interchanges, HOT lanes, HOV lanes, and auxiliary lanes, as well as development project construction, could delay police vehicle response times or otherwise delay

the response of police services. By closing off one or more lanes of a roadway, response times could temporarily and intermittently increase as police vehicles take longer routes due to construction activity. The closure of lanes could also potentially cause traffic delays and ultimately inhibit access when responding to service calls. Generally, police response times during project construction are reduced through adherence to road encroachment permits. Traffic control plans are typically required to further reduce impacts on traffic which would also reduce impacts to police response.

Noise impacts of police stations, which are unique to this type of operation, can affect nearby sensitive receptors but such impacts are unpredictable at this time since the location and design of new police stations, as well as the proximity to sensitive receptors, are currently unknown. In any event, construction of these facilities would comply with all applicable laws, regulations, and ordinances, and mitigation measures would be required to address any potentially significant impacts.

While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development, the Plan could contribute to the need for construction of new or physically altered police facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, and impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM PSF-1**.

SMM PSP-1 SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.

SMM PSP-2: SCAG shall help to enhance the region's ability to deter and respond to acts of terrorism, human-caused or natural disasters through regionally cooperative and collaborative strategies. SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.

SMM PSP-3: SCAG shall help to enhance the region's ability to deter and respond to terrorist incidents, human-caused or natural disasters by strengthening relationship and coordination with transportation. This will be accomplished by the following:

- SCAG shall work with local officials to develop regional consensus on regional transportation safety, security, and safety security policies.
- SCAG shall encourage all SCAG elected officials are educated in NIMS.
- SCAG shall work with partner agencies, federal, state and local jurisdictions to improve communications and interoperability and to find opportunities to leverage and effectively utilize transportation and public safety/security resources in support of this effort.

SMM PSP-4: SCAG shall encourage and provide a forum for local jurisdictions to develop mutual aid agreements for essential government services during any incident recovery.

Project Mitigation Measures

PMM PSP-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new emergency response facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Coordinate with emergency response agencies to ensure that there are adequate governmental facilities to maintain acceptable service ratios, response times or other performance objectives for emergency response services and that any required additional construction of buildings is incorporated in to the project description.
- b) Where current levels of services at the project site are found to be inadequate, provide fair share contributions towards infrastructure improvements, as appropriate and applicable, to mitigate identified CEQA impacts.
- c) Project sponsors can and should develop traffic control plans for individual projects. Traffic control plans should include information on lane closures and the anticipated flow of traffic during the construction period. The basic objective of each traffic control plan (TCP) is to permit the contractor to work within the public right of way efficiently and effectively while maintaining a safe, uniform flow of traffic. The construction work and the public traveling through the work zone in vehicles,

bicycles or as pedestrians must be given equal consideration when developing a traffic control plan.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's inability to require project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered police facilities could be significant and unavoidable even with implementation of mitigation.

3.15.2.4 SOURCES

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County of Imperial Planning & Development Services. General Plan: Seismic and Public Safety Element. Available online at: <http://www.icpds.com/?pid=837>, accessed November 5, 2018.

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3.15.3.1 ENVIRONMENTAL SETTING

Counties and cities within the SCAG region provide public education facilities and services to residents including elementary schools, middle schools, secondary schools, postsecondary schools, and colleges/universities, as well as special and adult education. Additional discussion of schools is provided in **Sections 3.3, Air Quality, and 3.11, Land Use and Planning.**

3.15.3.1.1 California Department of Education

The California Department of Education (CDE) oversees the state’s public school system, which provides education to more than six million children and young adults in more than 10,000 schools. CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school programs, secondary school programs, adult education, some preschool programs, and child care programs.

Although the California public school system is subject to state requirements, the CDE relies on local control for the management of school districts. In allocating resources among the schools of the district, school district governing boards and district administrators must follow the law, but also set the educational priorities for their schools. As of the 2018-2019 school year, there were more than 1,030 school districts in California.¹

3.15.3.1.2 Educational Facilities

According to the California Department of Education, there are approximately three million students enrolled in schools in the SCAG region, ranging from kindergarten to 12th grade, with over 141,000 teachers (see **Table 3.15.3-1, Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2017–2018 School Year**). The number of public K–12 school districts range from a low of 19 in Imperial County to a high of 80 in Los Angeles County, with a corresponding range of schools from a low of 74 in Imperial County to over 2,300 in Los Angeles County (see **Table 3.15.3-2, Public and Private Schools in the SCAG Region**). Three counties have University of California campuses, and all but one county have one or more California State University campuses (see **Table 3.15.3-2**).

¹ California Department of Education. 2019. *Fingertip Facts on Education in California*. Available online at: <https://www.cde.ca.gov/ds/sd/cb/ceffingertipfacts.asp>, accessed August 28, 2019.

Table 3.15.3-1
Kindergarten through Grade 12 Enrollment and Teachers in the SCAG Region for the 2017–2018
School Year

County	Enrollment K–12	Teachers
Imperial	37,716	1,763
Los Angeles	1,492,652	73,737
Orange	485,835	21,438
Riverside	428,992	19,301
San Bernardino	403,137	18,680
Ventura	137,758	6,502
SCAG Region	2,986,090	141,421
California	6,220,413	306,261

Source:

California Department of Education. 2019. Data Quest. Available online at: <https://dq.cde.ca.gov/dataquest/>, accessed January 14, 2019.

Table 3.15.3-2
Public and Private Schools in the SCAG Region

County	Public Schools ¹		UC System ²	Cal State System ³	Private Schools (Active)	
	Districts	Schools			K–12	College
Imperial	19	74	—	—	11	—
Los Angeles	80	2,315	1	5	264	61
Orange	27	634	1	1	91	25
Riverside	23	515	1	—	69	5
San Bernardino	35	542	—	1	78	9
Ventura	20	210	—	1	34	4
SCAG Total	204	4,290	3	8	547	104

Source:

1 California Department of Education. 2019. California School Directory. Available online at: <https://www.cde.ca.gov/SchoolDirectory/>, accessed January 14, 2019.

2 University of California. 2018. Campuses. Available online at: <http://www.universityofcalifornia.edu/campuses/welcome.html>, accessed January 14, 2019.

3 California State University. Accessed August 2019. The 23 Outstanding Campuses of the CSU. Available at: <https://www2.calstate.edu/attend/campuses>, accessed August 28, 2019.

Imperial County

Imperial County has 19 school districts, 11 private schools, three charter academies, and a community college, Imperial Valley College. Enrollment within the districts ranges from 9,200 students to 81 students. Within the County, 11 school districts have recently passed bond measures that will support new gymnasiums, classrooms, science labs, swimming pools, and three entirely new schools.² Additionally, San Diego State University has a satellite campus in Imperial County, located in Calexico.

Los Angeles County

Los Angeles County Office of Education is the largest regional education agency in the U.S. and serves as an intermediary between the local school districts and the California Department of Education. The County is served by 80 school districts.³ As with all of California, the districts operate independently of the County government and elected governing school boards are responsible for budgeting and decision-making.

Orange County

The Orange County Department of Education is comprised of 27 K-12 school districts, four community college districts, one alternative school, and a special education school. There are more than 600 public schools and 20,000 educators serving more than 500,000 students. Although almost all of the Orange County schools are experiencing growth, the fastest growing districts are within South County: Saddleback Valley Unified School District and Capistrano Unified School District. The Orange County Department of Education also promotes a childcare program, offering before- and after school care for children of working parents, as well as youth and teen programs.⁴

Riverside County

Within Riverside County, the Riverside County Office of Education (RCOE) provides educational and administrative support services to the 23 school districts and nearly 430,000 students living in the County. Beyond acting as an intermediary between the State and local school districts, the RCOE also supports or directly provides a variety of specialized needs, such as Special Education for the severely handicapped,

² Imperial County Office of Education (ICOE). 2018. *2017- 2018 ICOE Annual Yearbook*. Available online at: <https://indd.adobe.com/view/147cbdb7-1874-432c-8a96-3fd7f03f81ed>, accessed March 27, 2019.

³ Los Angeles County Office of Education. *Public Schools Directory, Los Angeles County School Districts*. Available online at: <https://schooldirectory.lacoe.edu/los-angeles-county-public-schools-directory.aspx>, accessed August 28, 2019.

⁴ Orange County Department of Education. *About OCDE*. Available online at: <https://ocde.us/AboutOCDE/Pages/default.aspx>, accessed August 28, 2019.

Head Start, Migrant Education, Alternative Education through independent study, Community Schools and Juvenile Court Schools and Career Technical Education programs designed to teach workforce skills aiding future employment. The RCOE reports 515 school sites, including 18 charter schools, and employs approximately 19,000 teachers and non-teaching school employees.⁵

San Bernardino County

The San Bernardino County Superintendent of Schools manages approximately 403,000 students across more than 500 schools in 35 districts.^{6,7,8} The County also has six Special Education Local Plan Areas, and five regional occupational programs.^{9,10} The County Board of Supervisors exercises direct control over the County School System, which is under the jurisdiction of the State Board of Education.

Ventura County

The Ventura County Office of Education (VCOE) oversees the County's 20 public school districts, which serve nearly 138,000 K-12 students. The VCOE also promotes court and community schools, as well as special education facilities. The primary role of the office is to promote quality educational services to all students by providing leadership, support, assistance, and coordination to school districts and County operated programs through the provisions of administrative, educational, fiscal and clerical services. In addition, the District provides professional development opportunities for teaching staff and hosts countywide academic competitions including the spelling bee, mock trial, and academic decathlon.¹¹

⁵ Riverside County Office of Education. 2019. *2019 Report to the Community*. Available online at: https://www.rcoe.us/content/uploads/2019/03/Community-Annual-Report_2019.pdf, accessed August 28, 2019.

⁶ Education Data Partnership. *San Bernardino County*. Available online at: <https://www.ed-data.org/county/San-Bernardino/>, accessed August 28, 2019.

⁷ National Center for Educational Statistics. *Search for Public Schools*. Available online at: https://nces.ed.gov/ccd/schoolsearch/school_list.asp?Search=1&InstName=&SchoolID=&Address=&City=&State=&Zip=&Miles=&County=San+Bernardino&PhoneAreaCode=&Phone=&DistrictName=&DistrictID=&SchoolType=1&SchoolType=2&SchoolType=3&SchoolType=4&SpecificSchlTypes=all&IncGrade=-1&LoGrade=-1&HiGrade=-1, accessed August 28, 2019.

⁸ San Bernardino County Superintendent of Schools. *School Districts Information*. Available online at: <https://www.sbcss.k12.ca.us/index.php/2011-10-26-18-00-05>, accessed August 28, 2019.

⁹ California Department of Education. 2019. *California Special Education Local Plan Areas*. Available online at: <https://www.cde.ca.gov/sp/se/as/caselpas.asp>, accessed August 28, 2019.

¹⁰ Regional Occupational Program. *ROP Course Offerings*. Available online at: https://www.sbcrop.org/apps/pages/index.jsp?uREC_ID=427614&type=d&pREC_ID=933195, accessed August 28, 2019.

¹¹ Ventura County Office of Education. *Schools*. Available online at: <https://www.vcoe.org/Schools>, accessed August 28, 2018.

3.15.3.2 REGULATORY FRAMEWORK

3.15.3.2.1 Federal

Elementary and Secondary Education Act of 1965 (ESEA) and Every Student Succeeds Act (ESSA) of 2015

Since the Elementary and Secondary Education Act (ESEA) of 1965 (Public Law 89-10) was signed into law by President Lyndon B. Johnson, local school districts throughout the nation have received federal monies through grants to state educational agencies to improve the quality of elementary and secondary education. ESEA also offered new grants to districts serving low-income students and for text and library books, created special education centers, and created scholarships for low-income collect students. In 2002, Congress reauthorized ESEA and President George W. Bush signed the law under a new name: No Child Left Behind (NCLB). In 2015, President Obama reauthorized ESEA and improved upon the NCLB to focus on fully preparing all students for success in college and careers. The ESSA upholds critical protections for disadvantaged students, includes statewide assessments to measure progress, increases access to high-quality preschool and furthers goals to close achievement gaps and increase equity and positive outcomes for all students.¹²

3.15.3.2.2 State

California Government Code Section 65995

California Government Code Section 65995 is found in Title 7, Chapter 4.9 of the California Government Code. California Government Code Section 65995 authorizes school districts to collect impact fees from developers of new residential and commercial/industrial building space. Senate Bill 50 (SB 50) amended Government Code Section 65995 in 1998. Under the provisions of SB 50 schools can collect fees to offset costs associated with increasing school capacity as a result of development. The development that would occur within the SCAG region between now and 2044 would be subject to applicable fees determined by the local school districts per California Government Code Section 65995. The local school districts determine fees in accordance with California Government Code Section 65995 which can be adjusted every two years. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions. The provisions of SB 50 are deemed to provide full and

¹² Social Welfare History Project. *Elementary and Secondary Education Act of 1965*. Available online at: <https://socialwelfare.library.vcu.edu/programs/education/elementary-and-secondary-education-act-of-1965/>, accessed August 28, 2019.

complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws.¹³

Assembly Bill 2926

In 1986, Assembly Bill No. 2926 (Statutes of 1986, ch. 887) (AB 2926) authorized the levy of statutory development fees, as well as placed a cap on the number of fees that could be levied, on new residential and commercial/industrial development in order to pay for school facilities. Its overall purpose was to enable school districts to impose developer fees to pay for new school construction (Government Code 53080).¹⁴

California Education Code

School facilities and services are subject to the rules and regulations of the California Education Code and governance of the State Board of Education (SBE). The SBE is the 11-member governing and policymaking body of the California Department of Education (CDE) that sets K–12 education policy in the areas of standards, instructional materials, assessment, and accountability.¹⁵ The CDE and the State Superintendent of Public Instruction are responsible for enforcing education law and regulations; and for continuing to reform and improve public elementary school, secondary school, and childcare programs, as well as adult education and some preschool programs. The CDE’s mission is to provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards. The core purpose of the CDE is to lead and support the continuous improvement of student achievement, with a specific focus on closing achievement gaps.¹⁶

California Department of Education

The CDE is the government agency responsible for public education throughout the state. The department oversees funding, and student testing and achievement levels for all state schools. A sector of the CDE, the California State Board of Education is the governing and policy making sector

¹³ California Legislative Information. *Chapter 4.9. Payment of Fees, Charges, Dedications, or Other Requirements Against a Development Project [65995-65998], Section 65995.* Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=65995, accessed August 28, 2019.

¹⁴ California Legislative Information. *Article 4. Miscellaneous [53060-53087.8], Section 53080.* Available online at: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=53080, accessed August 28, 2019.

¹⁵ California State Board of Education. *State Board of Education.* Available online at: <https://www.cde.ca.gov/be/>, accessed August 28, 2019.

¹⁶ California State Board of Education. *Vision, Mission, and Goals.* Available online at: <https://www.cde.ca.gov/be/ag/ag/vmgoals.asp>, accessed August 28, 2019.

responsible for education policies regarding standards, instructional materials, assessment, and accountability. CDE's mission is to provide leadership, assistance, oversight, and resources so that every Californian has access to an education that meets world-class standards. The core purpose of CDE is to lead and support the continuous improvement of student achievement, with a specific focus on closing achievement gaps.

Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998

Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998 (Ed. Code, §§ 100400–100405) is a school construction funding measure that was approved by the voters on the November 3, 1998 ballot. The Act created the School Facility Program where eligible school districts may obtain state bond funds.¹⁷

Leroy Greene School Facilities Act of 1998

The Leroy Greene School Facilities Act of 1998 (Ed. Code, §§ 17070.10-17079.30) eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability for school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. The Act states that payment of developer fees is “deemed to be complete and full mitigation” of the impacts of new development.¹⁸

Community Facilities Act of 1982, as amended

The Community Facilities Act of 1982 (Section 53324 of the Government Code), also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District, which allows for the financing of public improvements and services. These include basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. Mello-Roos Community Facilities Districts are usually created to finance improvements and services when no other funding sources are available and require a two-thirds majority vote of residents living within the proposed boundaries. They are used especially often (but not exclusively) in new development areas. Upon approval, a special tax lien is placed against each property

¹⁷ Legislative Analyst's Office. 1998. *Proposition 1A Class Size Reduction Kindergarten – University Public Education Facilities Bond Act of 1998*. Available online at: https://lao.ca.gov/ballot/1998/1A_11_1998.htm, accessed August 28, 2019.

¹⁸ California Legislative Information. *Chapter 12.5. Leroy F. Greene School Facilities Act of 1998*. Available online at: https://leginfo.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=EDC&division=1.&title=1.&part=10.&chapter=12.5.&article=, accessed August 28, 2019.

in the district, and residents pay a special tax each year. This tax is not based on property value, but on formulas that take into account physical characteristics such as square footage and structure size.¹⁹

3.15.3.2.3 Local

School Districts

Although the California public school system is under the policy direction of the Legislature, the California Department of Education relies on local control for the management of school districts. In allocating resources among the schools of the district, school district governing boards and district administrators must follow the law, but also set the educational priorities for their schools. In addition, some jurisdictions issue bonds to finance school construction.

General Plans

Local planning policies related to education services are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that public services must be provided at the same time (or in advance of) need for that service. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives.

3.15.3.3 ENVIRONMENTAL IMPACTS

3.15.3.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the proposed Plan would result in significant impacts to educational facilities, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios or other educational performance factors.

3.15.3.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of schools under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. The analysis of these impacts is programmatic at the regional level, as such impacts for individual schools or school districts is not determined.

¹⁹ California Tax Data. *What is Mello-Roos?* Available online at: <https://www.californiataxdata.com/pdf/Mello-Roos2.pdf>, accessed November 5, 2018.

In *Goleta Union School District v Regents of University of California* (1995) 37 CA 4th 1025, the court held that school overcrowding is a social impact and does not require analysis in an EIR and mitigation, unless the overcrowding is linked to physical environmental effects (such as new school construction). However, the law is somewhat unclear on how to analyze impacts from school facilities. The legal practice guide, "Practice under the California Environmental Quality Act" by the Continuing Education of the Bar, provides the following discussion on impacts to schools:

State and local agencies may not deny either legislative or adjudicative approvals on the basis of a refusal to pay fees in excess of those limits (Government Code Section 65995).

The statutes also significantly limit the application of CEQA to school facilities impact issues. The fees set forth in Government Code Section 65996 constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects (Government Code Section 5996(a)).

Because the statute states that the statutory fees are the exclusive means of considering, as well as mitigating, school impacts, it limits not only the mitigation that may be required but also the scope of impact review in CEQA documents and the findings for school impacts.

In *Chawanakee Unified School District v County of Madera* (2011) 196 CA 4th 1016, the court held that because the methods in the statute are the exclusive means of "considering" impacts on schools, an EIR need not describe and analyze a development's impacts on schools. Consistent with this view:

- Once the statutory fee is imposed, the impact should be determined to be mitigated because of the provision that the statutory fees constitute full and complete mitigation (Government Code Section 65995(b)); and
- It should not be necessary to adopt a statement of overriding considerations for school facilities impacts when the statutory fee is assessed, because the impact is deemed as a matter of law to be adequately mitigated (Government Code Section 65995(b)).

The *Chawanakee* court also ruled that the reach of the statute is limited to impacts "on" schools and does not extend to impacts on the non-school physical environment, even though they may be "related" to schools in some way. The implications of this ruling are uncertain, however, because the court did not consider the effect of Government Code Section 65995(b), which states that the statute provides full school facilities mitigation notwithstanding CEQA, or of Government Code Section 65995(c), which defines a school facility as "any school-related consideration relating to a school district's ability to accommodate enrollment."

Based on the above and the uncertainty created by the *Chawanakee* decision related to impacts to non-school property from the construction of school facilities, for purposes of this PEIR, an impact on schools would occur if the Plan promotes growth patterns resulting in the need for and/or the provision of new or physically altered public school facilities, the construction of which would cause significant environmental impacts in order to maintain classroom sizes or other performance objectives. The determination of whether there is a significant impact related to schools is based on whether a significant impact would result from the construction of new or expanded school facilities on non-school property. This PEIR analyzes the potential for the Plan to result in the need for new school facilities and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.15.3.3.3 Impact and Mitigation Measures

Impact PSS-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered educational facilities, need for new or physically altered educational facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Population is anticipated to increase by approximately 3.2 million people over the lifetime of the Plan (with or without the Plan); some of this population increase would include school age children.²⁰

²⁰ Southern California Association of Governments. Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

According to SCAG's Demographics and Growth Technical Report, the share of children will decline by 2.48 percent, but school age children will continue to make up a large share of the overall population.

Based on the 2018 enrollment of approximately 3 million students in the SCAG region (approximately 16 percent of an overall 2018 population of 19.1 million), and considering the projected growth scenario for 2045, the number of children enrolled in K-12 schools is anticipated to increase by approximately 558,000 students.^{21,22} The land use strategies included in the Plan direct new growth to existing urbanized communities within the SCAG region. For example, as projected by the Plan, HQTAs are planned to accommodate 48 percent of the region's future housing unit growth. It is anticipated that this increase in population and households in existing communities and HQTAs would require construction or expansion of new schools in the region to accommodate the increased growth and densified development (e.g., more families living and/or working there). However, it is important to note that some public schools have experienced declines in enrollment as a result of changing demographics and/or as a result of parents choosing a private education. For example, according to the Superintendent's 2019-20 Final Budget Report, the largest district in the region, Los Angeles Unified School District (LAUSD), is expecting enrollment to decrease across its schools; LAUSD states that this is due to several factors, including the reduced birth rate in Los Angeles County and the increasing cost of living, including housing, in southern California.²³

School standards, performance measures, and related policies are set for public schools in school district long-range plans. To meet increased demand, existing schools would likely need additional facilities and other resources to maintain adequate educational standards. In some cases, depending on the pattern of development, it could be necessary to construct new schools as has been the case in Orange County's Saddleback Valley Unified School District. Such construction could have impacts on aesthetics, air quality, cultural resources, noise, transportation, as well as public services and utilities.

It is assumed that if new or expanded schools are determined to be necessary at some point in the future, such facilities could occur in proximity to residential uses.²⁴ Depending on the location of new schools, if

²¹ Southern California Association of Governments. Profiles of Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. Available at: <http://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>

²² Assuming the percent of school age children within the SCAG region remains constant at 15.5 percent, the increase in the number of students would be approximately 558,000 students, or 15.5 percent of the anticipated increase of 3.6 million people for the SCAG region over the lifetime of the Plan.

²³ Los Angeles Unified School District. 2019. *2019-20 Superintendent's Final Budget*. Available at: https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/123/19_2019-20%20District%20Enrollment%20Trends%2005-17-19%20combined%20rev.pdf, accessed October 30, 2019.

²⁴ As allowed under Section 53094 of the California Government Code, the LAUSD Board of Education has, by resolution, exempted many schools from complying with local zoning regulations.

they are determined to be needed, impacts related to particular locations could occur; however, such impacts are too speculative to assess without information as to design, location and proximity to the population to be served. Further, any significant impacts that could result from the unique characteristics of a specific project site, or specific characteristics of a given school (e.g. night lighting and performance spaces) would be speculative at this time. The construction of these facilities would be subject to project-specific CEQA review. While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development the Plan could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM PSS-1: SCAG shall facilitate minimizing future impacts to school services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts to promote school planning efforts.

Project Mitigation Measures

PMM PSS-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of constructing new or physically altered school facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Where construction or expansion of school facilities is required to meet public school service ratios, require school district fees, as applicable.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing

regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered school facilities could be significant and unavoidable even with implementation of mitigation.

3.15.3.4 SOURCES

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3.15.4.1 ENVIRONMENTAL SETTING

American Library Association

In the mid 1960's, the American Library Association (ALA) established library standards for public libraries. The ALA recommends service criteria of 0.5 square feet of library space and 2.5 volumes per capita. Many jurisdictions have not identified individual service criteria and utilize the ALA recommendations to meet the demand for library services in an area.

Imperial County

The County of the Imperial Free Library was founded in 1912 and serves County residents in unincorporated areas, as well as in the cities of Calipatria, Holtville, and Westmorland. There are currently four branches located in Salton City, Calipatria, Heber, and Holtville. The library facilities offer services for children and teens, such as homework assistance, education games, and college scholarship databases.¹ Many incorporated cities within Imperial County also provide library services.

Los Angeles County

The County of Los Angeles Public Library is one of the largest public library systems in the U.S. The system maintains 86 libraries across seven library planning areas. The system is equipped with 7.5 million books, in addition to magazines, newspapers, government publications, reference materials, audio-visual media, adult, teen and children programs, downloadable e-books, computers, and internet access. The County guidelines regarding facilities are a minimum of 0.5 gross square foot and 2.75 items (books and other library materials) per capita.² Many incorporated cities within Los Angeles County also provide their own library services.

Orange County

The Orange County Public Library provides library service to the unincorporated areas of Orange County plus the cities of Aliso Viejo, Brea, Costa Mesa, Cypress, Dana Point, Fountain Valley, Garden Grove, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, La Habra, La Palma, Los Alamitos, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Seal Beach, Stanton,

¹ Imperial County, California. *Welcome to the Imperial County Free Library*. Available online at: <https://www.co.imperial.ca.us/Library/>, accessed August 28, 2019.

² County of Los Angeles. 2015. *Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 9, 2019.

Tustin, Villa Park, and Westminster. The library system operates 33 branch library facilities, which contain approximately 2.5 million volumes, as well as periodicals, pamphlets, audio and video recordings, graphics, maps, etc. The library system has determined a service standard of 0.2 square foot of library space per capita and it strives to locate facilities within a three mile radius of the communities they serve.³ Within Orange County, many incorporated cities also provide library services.

Riverside County

Riverside County operates a library system of 36 libraries, two book mobiles, and a county museum. Library management offices are located in the City of Riverside while the bookmobiles travel to serve unincorporated communities in the Coachella Valley and in western Riverside County. In Fiscal Year 2018/2019, the County library had approximately 3.752 million visitors and issued 43,700 library cards.⁴ Many incorporated cities within Riverside County also provide library services.

San Bernardino County

The San Bernardino County Library System (SBCL) maintains 32 branches, two book mobiles, and has an administration building in the City of San Bernardino.⁵ The SBCL provides library resources such as books, internet, youth and adult literacy services, and braille institute services. The SBCL is available to unincorporated communities as well as 25 incorporated communities within the County. Combined, the branch facilities and administrative office total over 358,000 square feet of building area.⁶ In addition, many incorporated cities within San Bernardino provide library services.

Ventura County

The Ventura County Library maintains 12 community branches across the County. The various branches provide services such as book and document loans, computer labs, meeting rooms, homework assistance, and STEAM events. The County Library also provides an adult literacy program and tutors, as well as an eLibrary.⁷ The Ventura County Library maintains over 300,000 print books, as well as a variety of music,

³ Orange County. *General Plan Chapter V: Public Services & Facilities Element*. Available at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=8639>, accessed September 9, 2019.

⁴ County of Riverside. *Fiscal Year 2019/19 Recommended Budget*. Available online at: https://countyofriverside.us/Portals/0/Government/Budget%20Information/18-19/FY18-19_Recommended_Budget_@2018-05-25_ELECTRONIC_VERSION.pdf, accessed August 28, 2019.

⁵ San Bernardino County. *Library About Us*. Available online at: <http://www.sbclib.org/Information.aspx>, accessed August 28, 2019.

⁶ County of San Bernardino. *San Bernardino Countywide Plan Draft Environmental Impact Report*. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_000_TITLE-PAGE.pdf, accessed September 18, 2019.

movies, TV shows, magazines, toys, instruments, and sketch books.⁸ In the Fiscal Year 2018-2019, the County Library circulated over 554,000 physical and digital items, issued 12,000 library cards, and held over 5,000 events.⁹ Library services are also provided by many incorporated cities within Ventura County.

3.15.4.2 REGULATORY FRAMEWORK

3.15.4.2.1 State

Community Facilities Act of 1982, as amended

The Community Facilities Act of 1982 (Section 53324 of the Government Code), also commonly known as the Mello-Roos Act, enables certain public agencies to designate a Mello-Roos Community Facilities District, which allows for the financing of public improvements and services. These include basic infrastructure, police protection, fire protection, ambulance services, schools, parks, libraries, museums, and other cultural facilities. Mello-Roos Community Facilities Districts are usually created to finance improvements and services when no other funding sources are available, and require a two-thirds majority vote of residents living within the proposed boundaries. They are used especially often (but not exclusively) in new development areas. Upon approval, a special tax lien is placed against each property in the district, and residents pay a special tax each year. This tax is not based on property value, but on formulas that take into account physical characteristics such as square footage and structure size.¹⁰

3.15.4.2.2 Local

Developer Impact Fees

One primary source for financing library facilities within the SCAG region and across the state is developer impact fees. These fees reduce impacts of residential developments; generally, developers can construct new library facilities or pay impact fees to the library to mitigate the impacts from a specific project. Fees vary depending on the jurisdiction in which the project is located.

⁷ Ventura County Library. 2019. *Services Available*. Available online at: <https://www.vencolibrary.org/services>, accessed August 28, 2019.

⁸ Ventura County Library. 2019. *System-Wide Stats*. Available online at: <https://www.vencolibrary.org/stats>, accessed August 28, 2019.

⁹ Ventura County Library. *Fiscal Year 2018-2019*. Available online at: https://www.vencolibrary.org/sites/default/files/VCLCanva_Infographic_FY18-19.png, accessed August 28, 2019.

¹⁰ California Tax Data. *What is Mello-Roos?* Available online at: <https://www.californiataxdata.com/pdf/Mello-Roos2.pdf>, accessed November 5, 2018.

3.15.4.3 IMPACTS AND MITIGATION MEASURES

3.15.4.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the proposed Plan would result in significant impacts to library facilities, if the following could occur:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.

3.15.4.3.2 Methodology

The methodology for determining the significance of impacts on public services compares existing conditions to the expected future use of libraries under the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. Due to the size of the region, a detailed analysis of individual libraries and their capacity is not feasible. As such, the analysis focuses on region wide capacity and impacts. The analysis of these impacts is programmatic at the regional level.

The need for, or deficiency in, library facilities to serve residents is not in and of itself a CEQA impact, but a social or economic impact. (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843). In accordance with CEQA, this PEIR analysis focuses on the extent to which the Plan's growth patterns result in a need for additional library facilities and the associated potential for construction and subsequent operation of such facilities to cause physical environmental impacts.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.15.4.3.3 Impact and Mitigation Measures

Impact PSL-1 **Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, need for new or physically altered library facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives.**

Significant and Unavoidable Impacts - Mitigation Required.

Population in the SCAG region is anticipated to increase by approximately 3.2 million people over the next 25 years, with or without the Plan. As discussed above, the counties within the SCAG region all have different service criteria for library services, with some counties not having set any at the time of this PEIR. Across the nation, public libraries have experienced significant growth in programming since 2012. The number of public programs offered per capita has jumped 27.5% while the number of programs attended per capita has risen 16.9%. The Public Library Association (PLA) is responding to this trend by offering relevant initiatives designed to help public libraries offer targeted programs around issues that matter most to patrons, including access to on-line resources and e-books. Currently, 100% of public libraries offer access to the internet; 98% offer free Wi-Fi; 90% help patrons with basic internet skills; 97% help people complete online government forms; 90% offer access to e-books.¹¹

New transportation facilities, especially those in urban areas, could facilitate access to libraries and result in increased use of some libraries. In addition, the anticipated growth in population and households would increase the demand for library facilities, which may result in a need for new and/or expanded library facilities. As communities grow, the need for library facilities would be assessed by each local jurisdiction and additional facilities would be constructed as needed. Depending on the location of new libraries, if they are determined to be needed, impacts related to locations could occur; however, without information as to design, location and proximity to the population to be served, such impacts are too speculative to assess. The construction of these facilities would be subject to project-specific CEQA review. While the PEIR analyzes anticipated effects of regional transportation and growth related to air quality, noise, traffic, utilities, and other environmental impact areas, given the increased growth as well as densified development (e.g., more families living and/or working there), the Plan could contribute to substantial adverse physical impacts associated with the construction of library facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures.

¹¹ American Library Association, State of America's Libraries Report 2019, website: <http://www.ala.org/news/state-americas-libraries-report-2019/public-libraries>, accessed October 30, 2019.

Mitigation Measures

SCAG Mitigation Measure

SMM PSL-1 SCAG shall facilitate minimizing future impacts to library services through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts, such as web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to Map Gallery, GIS library, and GIS applications, and promote acceptable service ratios regarding library services.

Project Mitigation Measure

PMM PSL-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects of construction of new or altered library facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Where construction or expansion of library facilities is required to meet public library service ratios, require library fees, as appropriate and applicable, to mitigate identified CEQA impacts.

Level of Significance After Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to the need for new or physically altered library facilities could be significant and unavoidable even with implementation of mitigation.

3.15.4.4 SOURCES

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3.16 PARKS AND RECREATION

This section of the Program Environmental Impact Report (PEIR) describes the existing recreational resources within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect recreation resources, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.16.1 ENVIRONMENTAL SETTING

3.16.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for recreation are provided.

Recreation Level of Service (LOS):¹ In the context of recreation of recreational service, LOS refers to the amount of “service” each park, open land, trail, or other facility provides to its constituents.² Conventional recreation and park LOS analysis—often called the “NRPA standards” method because it was published by the National Recreation and Parks Association (NRPA)—is based on capacity only. NRPA standards suggest providing a certain number of facilities or acres of parkland per 1,000 population. The County of Los Angeles General Plan³ and Orange County General Plan⁴ have established a standard for parklands of four acres of local parkland and six acres of regional parkland per 1,000 county residents in unincorporated areas; the Imperial County General Plan⁵ has established a standard of five net acres of overall parkland per 1,000 county residents in unincorporated areas; the San Bernardino County General Plan⁶ has established a standard of 14.5 acres of undeveloped lands and/or

¹ It should be noted that LOS may also refer to a transportation metric when discussing traffic impacts, however for the purposes of this section of the PEIR, LOS refers to the amount of “service” each park, open land, trail, or other facility provides to its constituents.

² National Recreation and Parks Association. *NRPA Parks Metrics* Available online at: <https://www.nrpa.org/publications-research/ParkMetrics/>, accessed March 29, 2019.

³ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

⁴ Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>, accessed August 19, 2019.

⁵ Imperial County Planning & Development Services Department. 2008. *Parks and Recreation Element*. Available online at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf), accessed August 19, 2019.

⁶ San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed August 19, 2019.

trails per 1,000 county residents and 2.5 acres of regional parkland per 1,000 county residents; and Ventura County has not established numeric parkland standards.

Because park needs and definitions vary among jurisdictions, the following description are provided for informational purposes. The definitions below are not intended to define all parkland in the region, but rather, are intended to provide general guidance about different types of parks that can be found in the region.

Local Park: According to the Los Angeles County General Plan, a park that is considered to serve the local community (within a two-mile service radius of the park) is generally 20 acres or less in size.^{7,8} Further, the Los Angeles County General Plan has refined local parks into the following categories:⁹

Park Node: Park nodes are small pieces of open space that serve as public destinations, connections, and community defining spaces. Examples include plazas, rest areas, playgrounds, landmarks, public art installations, etc.

Size: One-quarter acre or less

Service Area: No service radius area

Pocket Park: Pocket parks are less than three acres in size and serve residential or business areas within a quarter mile radius or within walking distance. Passive park amenities include picnic areas and seating areas. Active park amenities include children’s play apparatus.

Size: Less than three acres

Service Area: Up to one-quarter mile radius of the park

Neighborhood Park: The common objective of all neighborhood parks is to bring people together to recreate and socialize close to home. Passive park amenities include informal open play areas, children’s play apparatus, group picnic areas with overhead shelters, and barbecues. Active park amenities include practice sports fields, basketball, tennis, and

⁷ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

⁸ Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>, accessed March 27, 2019.

⁹ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

volleyball courts. Park facilities typically include public restrooms, and onsite parking and information kiosks.

Size: Three to 10 acres

Service Area: One-half mile radius of the park

Community Park: Community parks that are located in residential neighborhoods serve both the needs of the community park service radius and neighborhood park service radius. The amenities programmed into a community park are focused on meeting the needs of several neighborhoods or large sections of the community. Passive park amenities include informal open play areas, children’s play apparatus, family and group picnic areas with overhead shelters, and barbecues; active sports activities including light sports fields, basketball courts and tennis courts, aquatics complexes, skate parks, soccer arenas, roller hockey, community gardens, and dog parks; and park facilities including public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks.

Size: 10 to 20 acres

Service Area: 1 to 2-mile radius around the park

Regional Park: A park greater than 20 acres in size is generally considered a regional park. A regional park may have a service radius of over 25 miles.^{10,11} For instance, the Los Angeles County General Plan has refined regional parks into the following categories:¹²

Community Regional Park: Community regional parks protect and conserve natural resources, preserve open spaces, and provide recreational facilities that are not available in neighborhood or community parks. Passive park amenities include open play areas, children’s play apparatus, group picnic areas with overhead shelters, and barbecues. Active sports activities include lighted sports fields, basketball courts, and tennis courts. Additional amenities include multiple sports facilities, aquatics centers, fishing lakes, community buildings, gymnasiums, and scenic views and vistas. Park facilities typically include public restrooms, concession buildings, community buildings, maintenance buildings, and on-site parking and information kiosks.

¹⁰ Ibid.

¹¹ Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: <http://ocplanning.net/civicax/filebank/blobdownload.aspx?blobid=24960>, accessed March 27, 2019.

¹² Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

Size: 20 to 100 acres

Service Area: Up to 20-mile radius around the park

Regional Park: Regional Parks include unique areas such as lakes, wetlands, auditoriums, water bodies, and campgrounds, in addition to the active recreational facilities offered in community and community regional parks. Many of the recreation activities are associated with experiencing the natural environment. A regional park may also perform important ecological and environmental functions, including serving as wildlife habitats. Passive park amenities include group picnic areas with overhead shelters and barbecues. Additional park amenities include lakes, wetlands, auditoriums, water bodies for swimming, fishing and boating, and sports fields.

Size: Greater than 100 acres

Service Area: 25-mile or greater radius around the park

Special Use Facility: Special use facilities are generally single purpose facilities that serve greater regional recreational or cultural needs. Passive features include wilderness parks, nature preserves, botanical gardens, and nature centers. Active uses include performing arts, water parks, golf driving ranges, and golf courses.

Size: No size criteria

Service Area: No assigned service radius area

Trails/Linear Parks: SCAG,¹³ Los Angeles County,¹⁴ and San Bernardino County¹⁵ define trails as linear parks that provide community access to increased health and fitness activities in the increasingly urbanized region.

Multi-Benefit Parks: According the Los Angeles County General Plan, multi-benefit parks and open spaces are created through collaborative efforts among city, county, state, and federal agencies; private organizations; schools; private landowners; and industries. These parks are characterized as having more than one function and contributing to multiple program goals. There are a number of applications of multi-benefit parks including: utility corridors and flood protection basins that can serve as areas for active or passive recreation; school sites located adjacent to parks that can share facilities, such as parking

¹³ SCAG. 2016. *2016-2040 RTP: Active Transportation Appendix*. Available online at: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_ActiveTransportation.pdf, accessed September 4, 2019.

¹⁴ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 19, 2019.

¹⁵ San Bernardino County Land Use Services. 2007. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed August 19, 2019.

and park amenities; watershed areas that can protect critical wildlife habitats, preserve open space, provide trails for recreation, and contribute to water conservation objectives; and water districts, where trails can be located adjacent to flood protection channels and trailhead parks.¹⁶

School Sites: According the Los Angeles County General Plan, the County works with school districts to organize, promote, and conduct joint recreational and educational programs. These community recreation agreements are a form of joint-use agreement, where either a school or park facility may be put to some recreational use by the other party in exchange for some facility improvement and/or maintenance. A park does not have to be adjacent to a school (i.e., share a common boundary) for an agreement to be viable.¹⁷

City Parks and Facilities: According the Los Angeles County General Plan, city parks and facilities that are located close to the borders of the unincorporated areas are enjoyed by city and County residents alike. Similarly, local County parks that are located within or close to the borders of cities provide recreational amenities for both populations.¹⁸

Private Recreational Facilities: According the Los Angeles County General Plan, private recreational facilities play an important role in meeting recreational needs. The network of private recreational facilities consists of churches, health and fitness clubs, and other organizations that offer a variety of programs and facilities.¹⁹

Greenways: According the Los Angeles County General Plan, greenways provide a linear area along natural corridors, and often follow features such as rivers, man-made waterways, drainage channels, and utility easements. Greenways can accommodate various modes of uninterrupted pedestrian travel on pathways, including walking, jogging, and bicycling, and can include recreation areas and natural landscape features.²⁰

¹⁶ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

Within the SCAG region, parks are classified into several subgroups: neighborhood, community, city, as well as specialized recreation areas, regional recreational areas, state and federal recreation areas, and open space areas.²¹

Neighborhood Park: A park or playground developed primarily to serve the recreational needs of citizens living within a 0.5-mile radius of the park. These facilities include pocket parks and neighborhood playgrounds.²²

Community Park: A larger park or facility developed to meet the park and recreational needs of those living or working within a one to two-mile radius. Community parks may have a variety of playing fields and community recreation facilities.²³

City Park: A park having a wide range of improvements not usually found in neighborhood and community parks and designed to meet the recreational needs of the entire city population. Recreational facilities might include a nature area, golf course, zoo, pool, skateboarding parks, playing fields, or structures like gymnasiums, community centers, and public or private educational institutions. Parks may also be themed, such as a park dedicated to the agricultural heritage of the area.

Specialized Recreation Area: A recreation area or facility devoted to a very specific activity or use, such as a linear park, golf courses, or soccer parks.

Regional Recreation Area: Regional recreation areas provide access to significant ecological, cultural, or historical features or unique facilities that attract visitors from throughout the entire region (including incorporated and unincorporated areas). Regional recreation areas may be composed of one large site or several sites located in proximity that together provide a significant recreation area for the region. These parks may include areas of significant natural resources, as well as more developed activity sites. Regional recreation areas may be supported by a wide variety of specialized facilities such as indoor recreation centers, large group picnic areas, special event facilities/festival space, and campgrounds.

State and Federal Recreation Areas: A park maintained by state or federal agencies and typically providing recreational opportunities like camping, hiking, bird watching, rafting, boating, and fishing. Many parts of the region have vast areas covered by state or federal parkland.

21 California Department of Parks and Recreation. *Find a Park by County*. Available online at: <http://www.parks.ca.gov/parkindex>, accessed July 25, 2019.

22 Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed September 16, 2019.

23 Ibid.

Open Space Areas: Open space refers to lands that are generally unimproved and used for resource conservation and/or the managed production of resources. Open space is comprised of both designated open space and “de facto” open space. Designated open space is land that has been left undeveloped by design. Other land is deemed open space not by design, but because the land is not involved in a productive use, or in the case of agricultural lands, the land is consumed by a productive use that contributes to the visual quality of the land or provides wildlife habitat.

3.16.1.2 Existing Conditions

The diverse natural resources located in the six counties within SCAG’s jurisdiction provide a wide range of recreational opportunities for residents and tourists alike. Resources range from small neighborhood parks featuring playground equipment and sports fields to vast expanses of wilderness with hiking trails, rafting, and camping. In addition to parks for active recreation, the SCAG region also has a diversity of open space areas. The SCAG region contains approximately 150 miles of coastline, four national forests, two national parks, and several national wildlife refuges. There are 48 California state parks, 268 county parks, and over 3,300 city parks and open space areas in the SCAG region.^{24,25} These lands are governed by a variety of agencies, including municipal park departments, independent park districts, counties, cities, community service districts, and federal and state agencies.

Open Space and Recreation Lands in the SCAG Region

Public parks and open space serve all of the residents in the SCAG region, as well as tourists and visitors. The variety of landscapes within the SCAG region allows for a broad range of parks and recreational facilities, many of which are quite unique. The multitude of parks and associated facilities make the SCAG region an ideal area for outdoor exploration and draw many tourists and visitors to the area. An effective regional transportation system would increase accessibility to such destinations, for tourists and residents alike. Improved access to outdoor spaces would benefit the overall health and well-being of residents, as well as public education and environmental awareness. **Table 3.16-1, Recreational Areas and Protected Open Space by County (Acres)**, shows California Protected Areas (CPAs), lands owned in fee, from small parks to large wilderness areas, in each SCAG county by acreage.

Each city and county within the SCAG region has a general plan containing an open space and/or parks and recreation element. Each element describes specific rules, regulations, and current conditions of

²⁴ California Department of Parks and Recreation. *Find a Park by County*. Available online at: <http://www.parks.ca.gov/parkindex>, accessed October 24, 2018.

²⁵ GreenInfo Network. 2016. *California Protected Areas: Data Portal*. Available online at: <http://www.calands.org/>, accessed October 29, 2018.

various local parks and recreation facilities to maximize recreational benefits within each jurisdiction. Based on the information found in the various county plans, Orange County and Los Angeles County have a deficiency in local parkland. Los Angeles, Orange, and San Bernardino counties have established regional parkland standards, which they currently meet. Imperial County also meets its combined local and regional parkland standard. Further detail regarding the condition of parks, recreation, and open space in counties within the SCAG region is described below.

**Table 3.16-1
Recreational Areas and Protected Open Space by County (Acres)**

County	Total Acres
Imperial County	1,575,196
Los Angeles County	906,082
Orange County	152,486
Riverside County	2,857,963
San Bernardino County	8,492,573
Ventura County	645,734
Total	14,630,034

Source:

GreenInfo Network. 2018. CPAD: California Protected Areas: Data Portal. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed June 20, 2019.

Imperial County

Imperial County is a predominantly agricultural area and approximately 50 percent of County lands are undeveloped and under federal jurisdiction. A recreation designation covers the largest area of any land use in the County.²⁶ The County maintains approximately 1,575,196 acres of regional parkland and protected open space, 97 percent of which is open access land. Two and a half percent of protected land has no public access and less than one percent has restricted access, where the public can only enter with a permit. This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.²⁷ The Imperial County General Plan has established a standard of five net acres of overall parkland per 1,000 residents in unincorporated areas. With a total

²⁶ Imperial County. 1993. *General Plan Environmental Impact Report, Update*. Available online at: <http://www.icpds.com/?pid=829>, accessed March 27, 2019.

²⁷ Ibid.

population of 207,682 in 2019, there are approximately 7,585 protected acres per 1,000 inhabitants, which is significantly higher than the set overall standard.²⁸

Imperial County contains the Ocotillo Wells and Heber Dunes State Parks as well as eight County parks.²⁹ County parks maintain sports courts and recreational facilities, trails, barbecues, and playgrounds and space for activities such as camping, boating, and fishing. The Heber Community Center is also operated by the County and includes a library, event area, kitchen, and sports courts. Ocotillo Wells is a State Vehicular Recreation Area (SVRA) and contains more than 85,000 acres of desert open for off-road exploration, recreation, and camping. The Heber Dunes State Park is also an SVRA; it is mostly utilized by all-terrain vehicle (ATV) riders. The 323 acres of parkland are exclusively for day utilization and no camping, shooting or hunting is allowed.

Los Angeles County

Los Angeles County has 906,082 acres of parkland, a majority of which is under the jurisdiction of the federal government.³⁰ This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.³¹ The County maintains approximately 70,000 acres.³² Over 92 percent of the total parkland is open access and less than one percent allows no public access. The Los Angeles County General Plan has established a standard of 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population in Los Angeles County. According to the General Plan (2015), the County has a substantial deficit in local parkland, providing approximately 0.6 acres of local parkland per 1,000 unincorporated residents but 7.02 acres of regional parkland per 1,000 residents (total), which is above the regional standard.³³

²⁸ California Protected Areas (CPAD). 2018. *CPAD Statistics*. August. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July 30, 2019.

²⁹ Imperial County Planning and Development Services. 2018. *Parks and Recreation*. Available online at: <https://www.co.imperial.ca.us/publicwork/index.asp?fileinc=parkscounty>, accessed July 30, 2019.

³⁰ California Protected Areas (CPAD). 2018. *CPAD Statistics*. August. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July 30, 2019.

³¹ Ibid.

³² Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed July 7, 2019.

³³ Ibid.

Los Angeles County has 177 County parks and 24 state parks, the most of any county in the SCAG region.³⁴ Parks in Los Angeles include beaches, picnic areas, sports fields and courts, and hiking and camping opportunities. There are also multiple special use facilities, single purpose facilities serving greater regional recreational or cultural needs, such as the Hollywood Bowl.³⁵ Prominent parks in Los Angeles County include Santa Catalina Island Regional Park, Griffith Park, Topanga State Park, and the Antelope Valley Poppy Reserve.

Orange County

Orange County contains 152,486 acres of protected parkland, the majority of which is controlled on a federal or county level.³⁶ This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.³⁷ Orange County General Plan (2014) established parkland standards of 2.5 acres of local parkland per 1,000 residents in unincorporated areas and 6 acres of regional parkland per 1,000 residents.³⁸ With a total population of approximately 3,250,000 people,³⁹ the County provides about 46.9 acres of parkland per 1,000 residents, far surpassing regional parkland standards.

Orange County maintains 25 urban and wilderness parks, comprised of 60,000 acres including historical sites, beaches and harbors, and 150 miles of paved regional trails and 350 miles of off-road trails. Additionally, there are a host of local parks, beaches, and nature preserves.⁴⁰ Prominent parks include Laguna Coast Wilderness Park, Carbon Canyon Regional Park and Irvine Regional Park.

Riverside County

Riverside County has 2,857,963 acres of protected parkland, over 2.8 million of which are open access.⁴¹ This total includes parkland owned by the federal, state, county, and city as well as special district,

³⁴ Los Angeles County Department of Parks and Recreation. Frequently Asked Questions. Available online at: <http://parks.lacounty.gov/frequently-asked-questions/>, accessed July 30, 2019.

³⁵ Ibid.

³⁶ California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July, 30 2019.

³⁷ Ibid.

³⁸ Orange County Public Works. *Orange County General Plan, Chapter VII Recreation Element*. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=24960>, accessed September 16, 2019.

³⁹ SCAG modeling, 2019.

⁴⁰ Orange County. 2018. *OC Parks Strategic Plan*. Available online at: <http://www.ocparks.com/civicax/filebank/blobdload.aspx?BlobID=82682>, accessed July 30, 2019.

⁴¹ California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July 30, 2019.

nonprofit, private, and joint parkland.⁴² Regional parks in the area cover approximately 23,317 acres.⁴³ The County does not have set standards regarding parklands but the vast amount of open space, the second-most in the SCAG region, allow for approximately 1,161 acres of protected parkland per 1,000 residents based on a 2019 population of 2,460,000 people.⁴⁴ Riverside County parks include Joshua Tree National Park, Anza-Borrego State Park, and the Salton Sea State Recreation Area.

San Bernardino County

San Bernardino has the most open space and protected parkland out of all of the counties in the SCAG region. It maintains a total of 8,492,573 acres of protected parkland, 8,469,686 of which are open access.⁴⁵ This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.⁴⁶ The 2007 General Plan denotes a standard of 2.5 acres of regional parkland per 1,000 residents.⁴⁷ With a population of approximately 2,210,000 people,⁴⁸ the County provides about 3,830 acres of parkland per 1,000 residents, far surpassing regional parkland standards.

The San Bernardino Regional Parks Department operates a total of 8,515 acres of regional parks. Numerous County special districts operate local parks in many unincorporated communities of the County. These districts operate independently from the County government and are financed by local taxes within each respective district boundary. The County also includes wilderness areas that are mostly under the jurisdiction of the BLM, including the Sand to Snow National Monument and the Mojave Trails National Monument.⁴⁹

⁴² Ibid.

⁴³ Riverside County. 2015. *County of Riverside General Plan Chapter 5: Multipurpose Open Space Element*. December. Available online at: [https://planning.rctlma.org/Portals/14/genplan/general Plan 2017/elements/OCT17/Ch05 MOSE 120815.pdf?ver=2017-10-11-102103-833](https://planning.rctlma.org/Portals/14/genplan/general%20Plan%202017/elements/OCT17/Ch05%20MOSE%20120815.pdf?ver=2017-10-11-102103-833), accessed July 30, 2019.

⁴⁴ SCAG modeling, 2019.

⁴⁵ California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July, 30 2019.

⁴⁶ Ibid.

⁴⁷ County of San Bernardino. 2019. *San Bernardino Countywide Plan Draft EIR*. June. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-15-REC.pdf, accessed July 30, 2019.

⁴⁸ SCAG modeling, 2019.

⁴⁹ County of San Bernardino. 2019. *San Bernardino Countywide Plan Draft EIR*. June. Available online at: http://countywideplan.com/wp-content/uploads/2019/06/Ch_05-15-REC.pdf, accessed July 30, 2019.

Ventura County

Ventura County is home to 645,734 acres of protected parkland and open space.⁵⁰ This total includes parkland owned by the federal, state, county, and city as well as special district, nonprofit, private, and joint parkland.⁵¹ The County maintains 13 regional parks, 23 county parks, and a multitude of beach front parks and marinas, and community parks. The County also operates the Hungry Valley SVRA, 18,780 acres between Los Angeles and Ventura counties that are open to vehicular use, trail use, and camping.⁵² Ventura County does not specify parkland and open space standards but with a population of approximately 868,000 persons⁵³, the County provides roughly 743 acres of total parkland and open space per 1,000 residents.

3.16.2 REGULATORY FRAMEWORK

The federal government sets public recreation standards for protection of publicly owned recreation areas; scenic, historic, and recreational trails; national forests, and recreational fisheries from conversion to non-compatible land uses that may include transportation projects through the recreational resource. The state sets recreation standards for protection of public parkland and establishment of new parkland to meet the needs of a growing population as a result of development project. The provision of new parkland and recreational facilities is generally subject to local general plan policies.

3.16.2.1 Federal

Section 4(f) of the U.S. Department of Transportation Act of 1966 (U.S. DOT Act)

Section 4(f) of the U.S. DOT Act (Public Law 89-670) was enacted as a means of protecting publicly owned public parks, recreation areas, and wildlife/waterfowl refuges as well as historic sites of local, state, or national significance, from conversion to transportation uses.

The provision states that the Secretary of the U.S. DOT may approve a transportation project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land

⁵⁰ California Protected Areas (CPAD). 2018. *CPAD Statistics*. December. Available online at: <https://data.cnra.ca.gov/dataset/california-protected-areas-database-2018a>, accessed July 30, 2019.

⁵¹ Ibid.

⁵² California State Parks. *Hungry Valley SVRA*. Available online at: http://www.ohv.parks.ca.gov/?page_id=1192, accessed September 17, 2019.

⁵³ SCAG modeling, 2019.

from an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, recreation area, refuge or site) only if:⁵⁴

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use; or
- The Administration determines that the use of the property will have a de minimis impact.

National Trails System Act

The National Trails System Act (Public Law 90-543) was established by Congress in 1968 to establish a network of scenic, historic, and recreational trails. The act defined four categories of national trails: recreation trails, scenic trails, historic trails, and connecting or side trails. Trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as “National Recreation Trails” by the appropriate Secretary.⁵⁵ Since the National Trails System Act was enacted, the list of qualifying national scenic trails and national historic trails has grown from the initial two trails (the Application National Scenic Trail and Pacific Crest National Scenic Trail) to the current list, which includes 11 national scenic trails and 19 historic trails. In addition, more than 1,000 national recreation trails have been designated nationwide, 91 of which are located in California.^{56,57}

National Forests Land Management Plans

Each of the four Southern California national forests (Cleveland National Forest, Los Angeles National Forest, San Bernardino National Forest, and Los Padres National Forest) is included in the Southern California National Forests Vision. The Southern California National Forests Vision (forest plans) has created individual land management plans for each of the four Southern California national forests. The land management plans include strategic programmatic direction for managing the land in each national forest and its resources for the next 10 to 15 years. The plans include sections on resource management,

⁵⁴ U.S. Department of Transportation, Federal Highway Administration. *Environmental Review Toolkit: Section 4(f)*. Available online at: <https://www.environment.fhwa.dot.gov/legislation/section4f.aspx>, accessed November 6, 2018.

⁵⁵ Government Publishing Office. 1968. *National Trails System Act: Public Law 90-543*. Available online at: <https://www.govinfo.gov/content/pkg/STATUTE-82/pdf/STATUTE-82-Pg919.pdf>, accessed August 20, 2019.

⁵⁶ U.S. Department of the Interior National Park Service. 2019. *Reference Manual 45: National Trails System*. Available online at: https://www.nps.gov/policy/Reference_Manual_45.pdf, accessed August 20, 2019.

⁵⁷ American Trails. *NRT Database*. Available online at: <http://www.nrtdatabase.org/>, accessed August 20, 2019.

public use and enjoyment, facilities operation and maintenance, commodity and commercial uses, and fire management.⁵⁸

Executive Order 12962—Recreational Fisheries

The objective of Executive Order 12962, dated June 7, 1995, is the conservation, restoration and enhancement of aquatic systems to provide for increased recreational fishing. Under the executive order, federal agencies shall improve the quantity function, sustainable productivity and distribution of U.S. aquatic resources for recreational fishing opportunities by:⁵⁹

- Developing and encouraging government-private sector partnerships
- Identifying recreational fishing opportunities
- Implementing sound aquatic conservation and restoration practices
- Providing access and promoting awareness
- Supporting outreach programs
- Implementing laws
- Establishing cost-share programs
- Evaluating the effects of federally funded, permitted, or authorized actions on aquatic resources and recreational fishing
- Assisting private landowners to conserve and enhance aquatic resources

Land and Water Conservation Fund Act, Section 6(f)(3)

Section 6(f)(3) of the Land and Water Conservation Fund Act (LWCF Act) of 1965 (16 U.S.C. § 460l et seq.) contains provisions to protect federal investments in park and recreation resources and the quality of those assisted resources. The law recognizes the likelihood that changes in land use or development may make park use of some areas purchased with LWCF Act funds obsolete over time, particularly in rapidly changing urban areas, and provides for conversion to other use pursuant to certain specific conditions.

Section 6(f)(3) states that no property acquired or developed with assistance under Section 6(f)(3) shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The

⁵⁸ USDA. 2005. *Land Management Plan: Part 1 Southern California National Forests Vision*. Available online at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5166876.pdf, accessed August 20, 2019.

⁵⁹ Government Publishing Office. 1995. *Executive Order 12962 of June 7, 1995*. Available online at: <https://www.govinfo.gov/content/pkg/FR-1995-06-09/pdf/95-14407.pdf>, accessed August 20, 2019.

Secretary shall approve such conversion only if he or she finds it to be in accordance with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he or she deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

This requirement applies to all parks and other sites that have been the subject of LWCF Act grants of any type, and includes acquisition of park land and development or rehabilitation of park facilities. If a transportation project would have an effect upon a park or site that has received LWCF Act funds, the requirements of Section 6(f)(3) would apply.⁶⁰

3.16.2.2 State

Quimby Act of 1965

The Quimby Act was established by the California State Legislature in 1965 and codified as California Government Code Section 66477. The Quimby Act allows the legislative body of a city or county, by ordinance, to require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative tract map or parcel map. Under the Quimby Act, requirements for parkland dedications are not to exceed three acres of parkland per 1,000 persons residing within a subdivision, and in-lieu fee payments shall not exceed the proportionate amount necessary to provide three acres of parkland, unless the amount of existing neighborhood and community parkland exceeds that limit.⁶¹

California Public Park Preservation Act of 1971

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act of 1971 (Pub. Resources Code, §§ 5400–5409). Under the Act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.⁶²

California Recreational Trails Plan of 2002

The California Department of State Parks (California State Parks) is a trustee agency that owns and operates all state parks and participates in land use planning that affects state parklands. Pursuant to

⁶⁰ National Park Service. 2015. *Land and Water Conservation Fund*. Available online at: <https://www.nps.gov/subjects/lwcf/protection.htm>, accessed August 20, 2019.

⁶¹ California Legislative Information. *AB-1191 Quimby Act*.

⁶² California Legislative Information. 1971. *Chapter 2.5. Preservation of Public Parks [5400-5409]*.

California Public Resources Code Section 5070, the California Recreational Trails Act, California State Parks has prepared the California Recreational Trails Plan in 1978, which was updated in 2002, with reports highlighting progress on the plan that are submitted to the State Legislature every two years.⁶³ The California Recreational Trails Plan establishes 12 designated trail corridors that pass through the SCAG region with the intent of forming a statewide trail system that links mountain, valley, and coastal communities to recreational, cultural, and natural resources throughout the state.⁶⁴

State Open Space Standards

State planning law (Government Code Section 65560) provides a structure for the preservation of open space by requiring every city and county in the State to prepare, adopt, and submit to the Secretary of the Resources Agency a “local open-space plan for the comprehensive and long-range preservation and conservation of open space land within its jurisdiction.” The following open space categories are identified for preservation:⁶⁵

- **Open space for public health and safety**, including, but not limited to, areas that require special management or regulation due to hazardous or special conditions.
- **Open space for the preservation of natural resources**, including, but not limited to, natural vegetation, fish and wildlife, and water resources.
- **Open space for resource management and production**, including, but not limited to, agricultural and mineral resources, forests, rangeland, and areas required for the recharge of groundwater basins.
- **Open space for outdoor recreation**, including, but not limited to, parks and recreational facilities, areas that serve as links between major recreation and open space reservations (such as trails, easements, and scenic roadways), and areas of outstanding scenic and cultural value.
- **Open space for the protection of Native American sites**, including, but not limited to, places, features, and objects of historical, cultural, or sacred significance such as Native American sanctified

⁶³ California Department of Parks and Recreation. *Trails Plan – 2011 Progress Report*. Available at: http://www.parks.ca.gov/?page_id=25677, accessed November 6, 2018.

⁶⁴ California Department of Parks and Recreation. *California Recreational Trails Plan Trail Corridors*. Available at: http://www.parks.ca.gov/?page_id=25680, accessed November 6, 2018.

⁶⁵ California Legislative Information. 1970. *Article 10.5. Open Space Lands [65560-65570]*.

cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property (further defined in California Public Resources Code Sections 5097.9⁶⁶ and 5097.993⁶⁷).

Mitigation Fee Act

The California Mitigation Fee Act, Government Code sections 66000, *et seq.*, allows cities to establish fees to be imposed on development projects for the purpose of mitigating the impact of development on a city's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act a City must follow the following primary requirements: (1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; (2) Segregate fee revenue from the General Fund in order to avoid commingling of capital facilities fees and general funds; (3) For fees that have been in the possession of a City for five years or more and for which the dollars have not been spent or committed to a project, the City must make findings each fiscal year.⁶⁸

3.16.2.3 Local

Los Angeles County Significant Ecological Areas (SEAs)⁶⁹

The Hillside Management and Significant Ecological Areas Ordinance was originally adopted in 1982 and most recently amended in 2019. Significant Ecological Areas (or SEAs) in LA County are designated as such due to their biological resources. These areas include undisturbed (or lightly disturbed) habitat of threatened or valuable species, or areas that support species movement, and are appropriately sized to support sustainable populations of the local species. The program is designed to conserve the diversity of biological resources in LA County through conservation and more stringent development rules. The SEA Ordinance outlines the review process and development standards for these areas to ensure biodiversity and ecosystems will not be negatively impacted by development. There are 21 SEAs in LA County per the 2035 General Plan published in 2015.

⁶⁶ California Legislative Information. 1976. *CHAPTER 1.75. Native American Historical, Cultural, and Sacred Sites [5097.9-5097.991]*.

⁶⁷ California Legislative Information. 2002. *CHAPTER 1.76. Native American Historic Resource Protection Act [5097.993-5097.994]*.

⁶⁸ California Legislative Information. 1987. *CHAPTER 5. Fees for Development Project [66000-66008]*.

⁶⁹ Los Angeles County. *Significant Ecological Areas Program*. Available online at: <http://planning.lacounty.gov/site/sea/home/>, accessed September 11, 2019.

Orange County Transportation Association Measure M2⁷⁰

Also known as “OC Go,” Measure M2 is a voter-approved sales tax extension of Measure M, which was approved in 1990. This program is the funding source for county transportation projects as well as the Freeway Environmental Mitigation Program in Orange County. The Freeway Environmental Mitigation Program funds natural lands acquisitions and in turn, qualifying transportation projects undergo a streamlined California Environmental Quality Act (CEQA) review process. Thirty million dollars for approximately 1,300 acres of land and \$10 million on 350 acres of habitat restorations have been funded through Measure M2.

Ventura County Habitat Connectivity and Wildlife Corridor Ordinance

Formally adopted in May 2019, this ordinance establishes regulations for development on lands where animals travel between the Santa Monica Mountains National Recreation Area and the Los Padres National Forest. The ordinance includes restrictions on elements detrimental to species movement, such as fencing, certain types of lighting and development in riparian areas. To provide flexibility for compliance, exemptions are allowed for agricultural activities.

Ventura County Save Open Space and Agricultural Resources (SOAR)⁷¹

SOAR is a collection of voter initiatives to create City Urban Restriction Boundaries (CURB) in eight of the county’s cities. With these initiatives, re-zoning natural or agricultural lands for development outside of a city’s sphere of influence requires a majority vote approval from residents. In 2016, voters approved all of the initiatives for renewal, which extends the expiration date until 2050.

County and City General Plans

The most comprehensive land use planning, including that for recreational facilities, in the SCAG region is provided by county and city general plans, which local governments are required by state law to prepare as a guide for future development. The SCAG region spans six counties and 191 cities, all of which have general plans containing policies related to provision of recreational resources. Open space and recreation resources are normally addressed in two mandatory elements of the general plan: land use and open space. The land use element normally focuses on the distribution of recreation facilities and

⁷⁰ OCTA. *OC GO Local Tax Dollars at Work*. Available online at: [http://octa.net/About-OC-Go/OC-Go-\(2011-2041\)/](http://octa.net/About-OC-Go/OC-Go-(2011-2041)/), accessed September 11, 2019.

⁷¹ Ventura County Resources Management Agency. *County of Ventura Measure (SOAR) Save Open space and Agricultural Resources Initiative – 2050*. Available online at: https://docs.vcrma.org/images/pdf/planning/ordinances/SOAR_Measure_C_2050.pdf

programs and an inventory of open space land, including those lands that provide opportunities for recreational activities. In contrast, the open space element focuses on open space for outdoor recreation including, but not limited to:

- Areas of outstanding scenic, historical, and cultural value
- Areas particularly suited for park and recreational purposes, including access to lakeshores, beaches, and rivers and streams
- Areas that serve as links between major recreational and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors

The six county general plans address the majority of the regional open space, beyond that provided by the national forest, national parks, and wildlife refuges:

- **Imperial County:** Parks and Recreation Element⁷² and Conservation and Open Space Element⁷³ of County General Plan
- **Los Angeles County:** Chapter 9: Conservation and Natural Resources Element⁷⁴ and Chapter 10: Parks and Recreation Element⁷⁵ of County General Plan
- **Orange County:** Chapter VI. Resources Element⁷⁶ and Chapter VII. Recreation Element⁷⁷ of County General Plan
- **Riverside County:** Chapter 5: Multipurpose Open Space Element and Chapter 10: Healthy Communities Element⁷⁸ of County General Plan

⁷² County of Imperial Planning & Development Services. 2008. *Imperial County General Plan: Parks and Recreation Element*. Available online at: [http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-\(2008\).pdf](http://www.icpds.com/CMS/Media/Parks-&-Recreation-Element-(2008).pdf), accessed November 6, 2018.

⁷³ County of Imperial Planning & Development Services. 2016. *Imperial County General Plan: Conservation and Open Space Element*. Available online at: <http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf>, accessed November 6, 2018.

⁷⁴ Los Angeles County Department of Regional Planning. 2015. *General Plan 2035: Chapter 9: Conservation and Natural Resources Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf, accessed November 6, 2018.

⁷⁵ Los Angeles County Department of Regional Planning. 2015. *Los Angeles County General Plan Adopted October 6, 2015: Chapter 10: Parks and Recreation Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf, accessed August 20, 2019.

⁷⁶ Orange County Development Services. 2012. *General Plan: Chapter VI Resources Element*. Available online at: <http://www.ocpublicworks.com/civicax/filebank/blobdload.aspx?blobid=40235>, accessed November 6, 2018.

⁷⁷ Orange County Public Works Development Services. 2015. *General Plan: Chapter VII. Recreation Element*. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>, accessed August 20, 2019.

- **San Bernardino County:** Chapter VI. Open Space Element⁷⁹ of County General Plan
- **Ventura County:** Resources Appendix⁸⁰ and Public Services and Facilities Appendix⁸¹ of County General Plan

Each city in the SCAG region has its own respective general plan that helps provide guidance for the growth and development of the city and contains measures to maintain and/or enhance open space within each of the city's jurisdictions. Each city's general plan varies in level of detail and necessary measures to preserve open space. Although city general plans are not required to contain parks and recreation sections, cities often choose to include this section to provide measures to maintain and/or enhance city parks and recreation areas.

Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region.

Zoning

City and county zoning codes provide the set of detailed requirements that implement general plan policies at the level of the individual parcel. Zoning codes present standards for different uses and identifies which uses are allowed in the various zoning districts of the jurisdiction. Since 1971, state law has required the city or county zoning code to be consistent with the jurisdiction's general plan.⁸²

⁷⁸ Riverside County Planning Department. *Current General Plan Documents*. Available online at: <https://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>, accessed November 6, 2018.

⁷⁹ County of San Bernardino Land Use Service Division. Amended 2014. *County of San Bernardino 2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed November 6, 2018.

⁸⁰ County of Ventura Resource Management Agency, Planning Division. 2005. *Ventura County General Plan: Resources Appendix*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/General-Plan-Resources-Appendix.pdf>, accessed November 6, 2018.

⁸¹ County of Ventura Resource Management Agency, Planning Division. 2005. *Ventura County General Plan: Public Facilities & Services Appendix*. Available online at: <https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf>, accessed November 6, 2018.

⁸² Governor's Office of Planning and Research. 2017. *State of California General Plan Guidelines*. Available online at: http://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed August 20, 2019.

3.16.3 ENVIRONMENTAL IMPACTS

3.16.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that the adoption and/or implementation of the Plan could result in significant adverse impacts to recreational resources, if the Plan would be considered to have the potential for significant impacts if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;
- Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives;
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.16.3.2 Methodology

The Plan lists transportation projects and includes strategies for integrating land use development patterns with transportation investments that emphasize system preservation and enhancement, active transportation, mode choices, accessibility, and mobility. These land use distribution patterns are designed to accommodate the region's demographic growth projections. Although population growth and development are anticipated to occur even without Connect SoCal, this Plan includes regional transportation and land use strategies that may influence growth throughout the region. To address this, the analysis in this PEIR covers overall region-wide impacts of major transportation projects listed in the Plan as well as transportation and land use strategies described in the Plan.⁸³

The need for or deficiency in adequate park facilities or library facilities to serve residents in the SCAG region is not in and of itself a CEQA impact, but a social or economic impact (*City of Hayward v. B'd of Trustees* (2015) 242 Cal.App. 4th 833, 843). However, pursuant to Appendix G of the *State CEQA Guidelines*, the determination of whether there is a significant impact related to parks or other recreational facilities is based on whether a significant impact could result from the construction and subsequent

⁸³ Major transportation projects include but are not limited to projects that involve ground disturbing activities and projects outside of existing rights-of-way such as projects that require new rights-of-way, adding traffic lanes, and grade separation.

operation of new or altered parks and/or recreational facilities or where existing park and recreational facilities would be substantially physically deteriorated as a result of the implementation of the Plan.

The methodology for determining the significance of recreation impacts compares the existing conditions to future (2045) conditions, as required in CEQA Section 15126.2(a). To assess potential impacts to recreation within the SCAG region, geographic information system (GIS) was used to analyze whether major highway, transit, and freight rail projects documented in the Plan would directly impact existing recreation resources. Baseline conditions were established for the acreage of local and regional parkland per 1,000 population in each county to determine existing park level of service, and the 2045 anticipated population growth forecast was used to calculate the quantity of parkland needed to meet future recreation needs.

The results of the GIS analysis determine whether major transportation projects included in the Plan could directly affect existing local and regional parkland in the SCAG region. Indirect impacts were evaluated based on the land development patterns after a review of the Plan's transportation and land use strategies, as well as the assumptions that protected recreational areas (such as national forests) would remain protected and new development would be encouraged away from natural habitat areas to be concentrated in existing urbanized areas such as high-quality transit areas (HQTAs) (near transit).

The mitigation measures in the PEIR are categorized into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.16.3.3 Impacts and Mitigation Measures

Impact REC-1 Potential to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Significant and Unavoidable Impact – Mitigation Required.

Transportation projects and growth under the Plan would have the potential to increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur, constituting a potentially significant impact. The Plan's transportation improvements aim to accommodate the anticipated population increase of approximately 3.2 million persons over the lifetime of the Plan. The Plan may influence new growth, primarily within urbanized areas such as HQTAs and other livable corridors and centers. Therefore, it is possible that existing neighborhood parks and other recreational facilities would see an increase in usage, which, in turn, may result in substantial physical deterioration of facilities. It is also possible that as population in urban centers increases, there may be more demand for parks outside of HQTAs, particularly if HQTAs are not well served. As such, the Plan's overall improvement of the transportation network could also result in increased accessibility and demand on regional parks.

Park accessibility is defined in the Plan as the share of the population within a one- and two-mile travel buffer from a regional park or school; also the share of park acreage that can be reached within 30 minutes by automobile or 45 minutes by bus or all transit modes during the evening peak period. As demonstrated in **Figure 3.16-1 Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs** and **Table 3.16-2 Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2045**, based on the assumption that a 45-minute drive would provide access to regional parks within a 30-mile radius around HQTAs, most of the SCAG region would be adequately served by regional parks in 2045.

**Table 3.16-2
Acres of Regional Recreation and Open Space Areas within a 45-Mile Radius of HQTAs in 2045**

	Imperial County ¹	Los Angeles County ²	Orange County ³	Riverside County ⁴	San Bernardino County ⁵	Ventura County ⁶
Regional parkland standard (acres per 1,000 population)	n/a	6	6	n/a	2.5	n/a
2045 population ⁷	281,200	11,677,200	3,534,600	3,251,700	2,815,000	947,500
Acres of Regional parkland/open space within 45-mile radius of 2045 HQTAs ⁸	1,194,653.53	911,711.94	181,505.98	1,659,657.76	2,641,955.40	1,063,942.04
Acres regional parkland/ open space per 1,000 population within 45-mile radius of 2045 HQTAs	4,248.81	78.08	51.35	510.37	938.49	1,122.78
Regional parkland surplus/deficiency within 45-mile radius of 2045 HQTAs	n/a	72.08 acre surplus	45.35 acre surplus	n/a	935.99 acre surplus	n/a

Source:

- 1 Imperial County Planning & Development Services Department. *County General Plan: Parks and Recreation Element*. Available online at: <http://www.icpds.com/CMS/Media/Conservation-&-Open-Space-Element-2016.pdf>, accessed September 5, 2019.
- 2 Los Angeles County Department of Regional Planning. March 2015. *Public Review Draft March 2015 Text-Only Version: Los Angeles County General Plan*. Available at: http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf, accessed November 1, 2019.
- 3 Orange County Public Works Development Services. July 2014. *General Plan: Chapter VII. Recreation Element*. Available at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=24960>, accessed November 1, 2019.
- 4 Riverside County Planning Department. 8 December 2015. *Riverside County General Plan – Current*. Available at: <http://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>, accessed November 1, 2019.
- 5 County of San Bernardino Land Use Service Division. Amended 24 April 2014. *County of San Bernardino 2007 General Plan*. Available at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed November 1, 2019.
- 6 County of Ventura Resource Management Agency, Planning Division. Amended 8 May 2007. *Ventura County General Plan: Public Facilities & Services Appendix*. Available at: <https://docs.vcrma.org/images/pdf/planning/plans/GENERAL-PLAN-Public-Facilities-Services-Appendix.pdf>, accessed November 1, 2019.
- 7 SCAG modeling, 2019.
- 8 GreenInfo Network. Accessed November 2019. *California Protected Areas Data Portal*. Available at: <http://www.calands.org/>

Local parks and urban areas are often overburdened in part because they are smaller and serve populated areas. As the land use strategies in the Plan emphasize compact development, it is possible that local parks could become overburdened. Accessibility to parks is also a public health concern and is addressed under Environmental Justice in the Plan. Urbanized areas, such as the low-income communities of Westlake and Southeast Los Angeles in the City of Los Angeles, are significantly park poor, with less than half an acre of park space per 1,000 residents.⁸⁴ Construction of transportation projects, as well as development in underutilized urban (opportunity) areas, as a result of land use strategies in the Plan would have the potential to impact recreational facilities both directly (through the acquisition of land)

⁸⁴ Los Angeles Department of City Planning. March 2015. *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan*. Available at: <http://planning.lacity.org/cwd/gnlpln/PlanforHealthyLA.pdf>, accessed June 24, 2019.

and indirectly (through development of transportation projects, urban uses, and increasing use of existing parks).

There may be sufficient parkland available in 2045 in some areas, while other areas may see a substantial increase in population and/or existing parks/recreational facilities may be transformed into development. As a result, by 2045 some areas and parks could have a lower LOS as a result of increasing population with no associated increase in park area, and some communities could have fewer parks. These impacts are expected to disproportionately affect urban centers where land prices are high. All of which is expected to result in existing parks and recreational facilities experiencing increased use and associated physical deterioration or accelerated physical deterioration.

Many of the transportation projects included in the Plan are located in urbanized areas, and therefore, are not likely to result in direct significant impacts to undisturbed lands or large tracts of land designated as open space. Additionally, as described in the regulatory framework, designated parklands are well protected at the local, state, and federal level.

Land use strategies described in the Plan would target growth in urbanized areas such as HQTAs that provide walkable, bikeable, and/or transit-oriented land patterns. Although HQTAs account for only 3 percent of total land areas, they are projected to accommodate 48 percent of the region's future households and 59 percent of the future jobs in 2045 under the Plan.⁸⁵ While land use strategies included in the Plan encourage additional parks and other regional and local biking and walking amenities, many of the areas where density would be expected to increase are areas without sufficient park space, resulting in increased use and the accelerated deterioration of existing neighborhood parks and recreational facilities.

The Plan includes strategies for active transportation, including expansion of the regional greenway network, regional and local bikeway network, and short-trip strategies to improve sidewalk quality and use of complete streets when making roadway improvements. These strategies are integrated with land use patterns such as HQTAs, livable corridors, neighborhood mobility areas, as well as with innovative technologies such as neighborhood electric micro-mobility vehicles through scooter and bike share programs. While the Plan has the potential to result in a significant impact on existing neighborhood and regional parks or other recreational facilities, implementation of such strategies can facilitate the creation of new neighborhood and regional recreational facilities and opportunities.

Overall, implementation of transportation projects as well as the transportation and land use strategies in the Plan would have the potential to increase the use of existing neighborhood and regional parks and

⁸⁵ SCAG SPM Model Output, September 13, 2019

other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, resulting in a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM USWS-1**.

SMM REC-1: SCAG shall continue the commitment to analyze public health outcomes as part of the Regional Transportation Plan/Sustainable Communities Strategy (Plan). As part of the public health analysis for the Plan, SCAG shall continue to analyze resident access to parks and recreational facilities from a county level to help local jurisdictions to improve resident access to parks. SCAG shall communicate the impacts of the Plan through its Public Health Working group, and continue to support policy changes at the city and county level through educational programs.

Project Level Mitigation Measures

PMM REC-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on the use of existing neighborhood and regional parks or other recreational facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, consider increasing the accessibility to natural areas and lands for outdoor recreation from the proposed project area, in coordination with local and regional open space planning and/or responsible management agencies.
- b) Prior to the issuance of permits, where projects require the construction or expansion of recreational facilities or the payment of equivalent Quimby fees, encourage patterns of urban development and land use which reduce costs on infrastructure and make better use of existing facilities, using strategies such as:
 - i. Increasing the accessibility to natural areas for outdoor recreation
 - ii. Utilizing “green” development techniques

- iii. Promoting water-efficient land use and development
- iv. Encouraging multiple uses, such as the joint use of schools
- v. Including trail systems and trail segments in General Plan recreation standards

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to existing park facilities could be significant and unavoidable even with implementation of mitigation.

Impact REC-2 Result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities, need for new or physically altered park facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives.

Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Significant and Unavoidable Impact – Mitigation Required.

Implementation of the Plan would result in additional linear recreation facilities, including a regional greenway network, a regional bikeway network, and local bikeway networks, the construction of which might have an adverse physical effect on the environment. Furthermore, the Plan encourages increased residential and commercial development in HQTAs that may necessitate the construction or expansion of recreation facilities within or in nearby accessible locations to the HQTAs, which are typically urban areas. Development of recreation facilities benefits the community socially, economically and environmentally. Recreational facilities and programs can also promote public health. For example, San Bernardino County enacted the Vision 2B Active program to promote health and wellness in the county

by encouraging residents to increase their physical activity and connecting them to existing recreational programs, amenities, and activities.^{86, 87}

As discussed in **Section 3.14, Population and Housing**, the total population in the SCAG region is expected to increase by approximately 3.2 million people by 2045, independent of the Plan. The land use framework of the Plan assumes an increase in small-lot, single- and multi-family housing that is expected to mainly occur in infill locations near transit infrastructure (HQTAs and transit priority areas [TPAs]), and transit-oriented communities. This increased density in urban areas will increase demand for parks and recreational facilities in these areas. Larger parks become increasingly difficult to provide as space is limited and land is expensive. When park development and expansion in urban areas occurs, it is beneficial but can also result in environmental impacts associated with construction and operation. Park construction, including the linear recreational facilities considered in the Plan, can result in noise and air quality impacts and park and recreational facility operation can also result in long-term noise and night lighting impacts. See **Section 3.3, Air Quality**, and **Section 3.13, Noise**, for a discussion of air quality and noise impacts from construction and mitigation to reduce these impacts. Therefore, this PEIR finds that potential construction and/or expansion of recreational facilities that may result from implementation of the Plan has the potential to result in a significant adverse impact, and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measure

See **SMM REC-1**.

Project Level Mitigation Measures

See **PMM REC-1, PMM AQ-2, and PMM NOISE-1**.

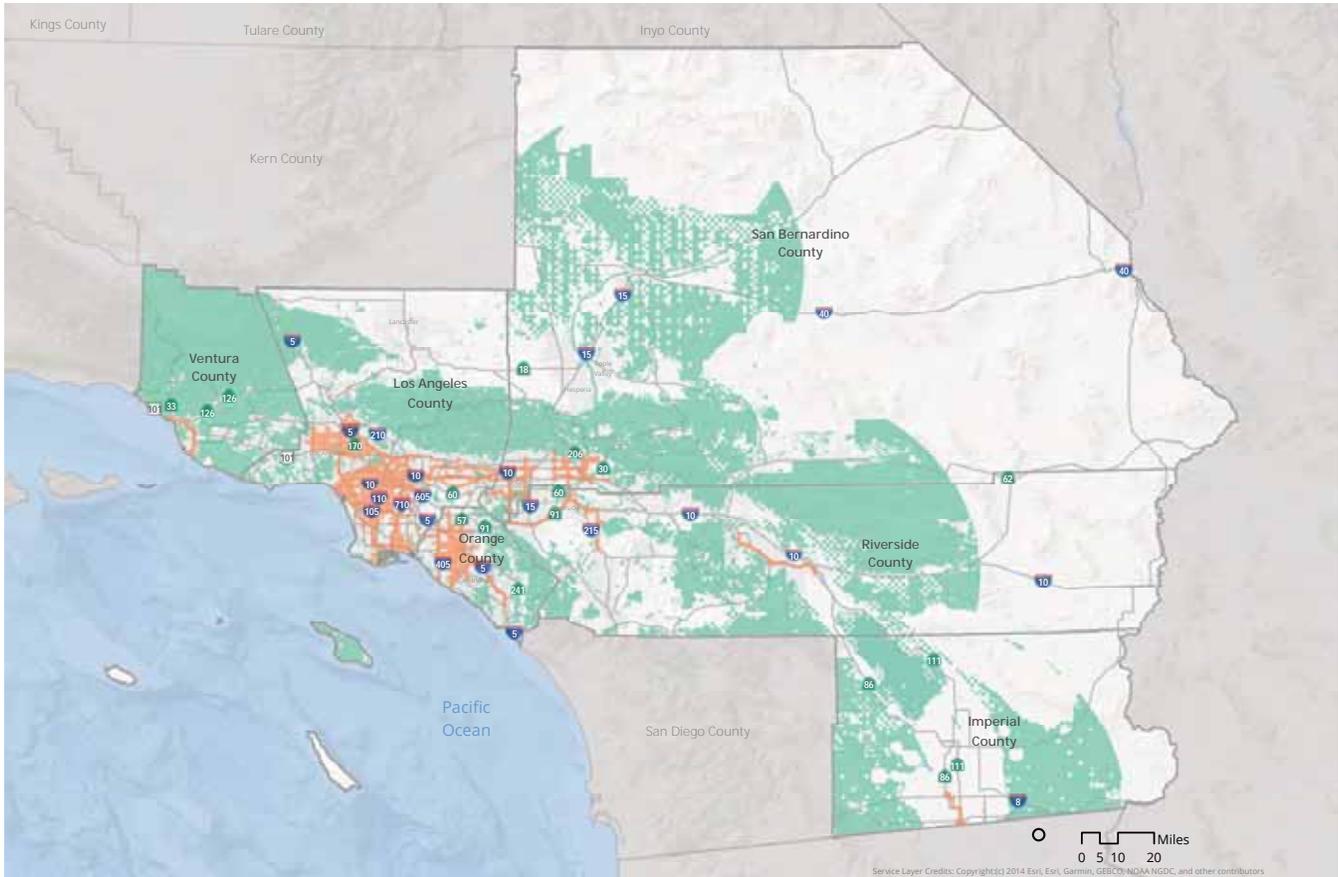
Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include

⁸⁶ SCAG. 2019. *Public Health Draft Technical Report*.

⁸⁷ National Recreation and Park Association. *Why Parks and Recreation are Essential Public Services*. Available online at: <https://www.nrpa.org/uploadedFiles/nrpa.org/Advocacy/Resources/Parks-Recreation-Essential-Public-Services-January-2010.pdf>

project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts resulting from the construction and operation of parks could be significant and unavoidable even with implementation of mitigation.



Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs

■ Recreation and Open Space
 ■ High Quality Transit Areas

SOURCE: California Protected Areas Database 2017a, SCAG, 2019

FIGURE 3.16-1

Regional Recreation and Open Space Areas within a 45-Mile Radius of 2045 HQTAs



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3.17 TRANSPORTATION, TRAFFIC, AND SAFETY

This section of the Program Environmental Impact Report (PEIR) describes the existing traffic and transportation networks within the SCAG region, identifies the regulatory framework with respect to laws and regulations that address transportation, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal” or “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.17.1 ENVIRONMENTAL SETTING

Southern California’s extensive roadway network facilitates the constant movement of people and goods throughout the area. The region’s complex intermodal network facilitates transportation via highways, transit, passenger and freight rail, airports, and seaports. The regional roadway system consists of an interconnected network of interstates, freeways, highway, toll roads, arterial streets, and local streets. This roadway network allows for the operation and movement of private vehicles, commercial vehicles, private and public buses, and heavy-duty trucks. Active transportation modes, such as biking and walking use non-motorized transportation facilities, including bikeways and walkways that often share spaces with roadway facilities. As traffic worsens and pressure to act on climate change mounts, local jurisdictions have placed an emphasis on the importance of the integration of active transportation modes in transportation planning.

The regional public transit system includes local shuttles, municipal and area-wide bus operations, light rail transit operations, regional commuter rail services, and interregional passenger rail service. The freight railroad network includes an extensive system of private railroads and several publicly owned freight rail lines serving industrial cargo and goods. The airport system consists of commercial, general, and military aviation facilities serving passenger, freight, business, recreational, and defense needs. The region’s seaports support substantial international and interregional freight movement and tourist travel. Intermodal terminals, consisting of freight processing facilities, transfer, store, and distribute goods across the region and the globe.

3.17.1.1 Definitions

Terms and criteria used in the assessment of traffic, transportation, and safety are described below.

California Transportation Plan (CTP): This is a statewide, long-range transportation plan to meet future mobility needs and reduce greenhouse gas emissions.¹ The CTP defines performance-based goals, policies, and strategies to achieve the collective vision for California's future, statewide, integrated, multimodal transportation system.

Congestion Management Plan (CMP): This is a state-mandated program enacted by the legislature to address the increasing concern that urban congestion is affecting economic vitality and diminishing quality of life in some communities. The CMP provides the analytical basis for transportation decisions through the State Transportation Improvement Program (STIP).

Congestion Management Agency (CMA): A CMA is a county-wide body comprised of local elected officials. The CMA administers the CMP to keep traffic levels manageable. In the past, state gas tax revenue had historically been used to fund road and highways. With the passage of Proposition 111 in the 1990s, state gas tax and directed revenue are provided to fund road, bicycle, pedestrian, and public transit projects in addition to highways to help manage congestion for multi-modal purposes. CMA is charged with coordinating land use, air quality, and transportation planning among the local jurisdictions, including monitoring the levels of congestion on major roads and analyzing the impacts that a proposed development will have on future traffic congestion.

Complete Streets: Planned, designed, operated and maintained for safe, convenient, and comfortable travel and access for users of all ages and abilities, will support people who are walking, bicycling, and using micro-mobility devices.

Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation

Goods Movement: Refers to the transportation of for-sale products from the location of their manufacture or harvest to their final retail destination.

Level of Service (LOS): In the context of traffic analysis, this is a measure used to relate the quality of traffic service. LOS is used to analyze highways by categorizing traffic flow and assigning quality levels of traffic based on performance measures such as speed and density.

Million Annual Passengers (MAP): Number of people taking public transit, airline flight, bus, or train calculated expressed in the unit of 100,000 in terms of boarding counts.

¹ California Department of Transportation. 2013. *California Transportation Plan 2040: Fact Sheet*. April.

Peak Hour: The part of the day during which traffic congestion on roads and crowding on public transport is at its highest.

Safety: Protection of persons and property from unintentional damage or destruction caused by accidental or natural events.

Transportation Demand Management (TDM): Strategies and actions directed at influencing the mode, frequency, time, route, or length of travel in order to maximize the efficiency and sustainable use of transportation facilities. TDM strategies typically include providing information on travel choices; managing parking, marketing and communications, financial incentives, and disincentives; providing and operating facilities that make the use of non-solo driving more attractive; and encouraging telework and flexible work strategies.

Transportation System Management (TSM): Transportation system management refers to a set of strategies that largely aim to reduce greenhouse gas (GHG) emissions by reducing congestion, primarily by improving transportation system capacity and efficiency. TSM strategies may also address a wide range of other externalities associated with driving such as pedestrian/driver safety, efficiency, congestion, travel time, and driver satisfaction. Some TSM strategies are designed to reduce total and systemic congestion and improve system-wide efficiency, while other strategies target particularly problematic areas where improvements could greatly affect congestion, safety, efficiency, and GHG emissions.

Vehicle Miles Traveled (VMT): The number of VMT provides an indicator of the travel levels of the roadway system by motor vehicles in a given time period. This number is estimated based upon traffic volume counts and roadway length.

Vehicle Hours of Delay (VHD): The number of VHD provides an indicator of congestion levels of a roadway.

3.17.1.2 Circulation System

Commute Patterns and Travel Characteristics

The existing transportation network serving the SCAG region supports the movement of people and goods. On a typical weekday in the six-county region, the transportation network supports over 460 million vehicle miles of travel (VMT) and nearly 13 million vehicle hours of travel (VHT). Of this total, over half occur in Los Angeles County and less in Orange, San Bernardino, Riverside, Ventura, and

Imperial Counties, respectively (**Table 3.17-1, Summary of Existing Daily Vehicle Miles and Percentage Vehicle Hours of Travel**).

Much of the existing travel in the SCAG region takes place during periods of congestion, particularly during the morning (6:00 AM to 9:00 AM) and evening peak periods (3:00 PM to 7:00 PM). Congestion can be quantified as the amount of travel that takes place in delay (vehicle hours of delay or VHD) and, alternately, as the percentage of all travel time that occurs in delay (defined as the travel time spent on the highway due to congestion, which is the difference between VHT at free-flow speeds and VHT at congested speeds). Existing travel delays and percent of regional VHT in delay ranges from a low of 1 percent delay in Imperial County on freeways and arterials to 56 percent in Los Angeles County, with an average of approximately 17 percent in the SCAG region (see **Table 3.17-2, Summary of Existing Delay and Work Trip Length; Figure 3.17-1, 2019 AM Peak Period Congestion Delay on the Regional Freeway System; Figure 3.17-2, 2045 AM Peak Period Congestion Delay on the Regional Freeway System; Figure 3.17-3, 2019 PM Peak Period Congestion Delay on the Regional Freeway System; and Figure 3.17-4, Plan 2045 PM Peak Period Congestion Delay on the Regional Freeway System**). There is variation in average travel distance from home to work, from approximately 11 miles in Imperial County, to approximately 21 miles in Riverside and San Bernardino Counties, the difference in average travel time during the peak hours ranges from a low of approximately 15 minutes in the a.m. peak hour in Imperial County to a high of approximately 33 minutes in Riverside County (**Table 3.17-2**). Home-to-work trip duration and distance are both greater for the inland counties of Riverside and San Bernardino, reflecting regional housing and employment distribution patterns.

The characteristics of home-to-work trip and all daily trips vary widely among counties (**Table 3.17-3, Existing Travel Mode Split [Percentage of County Total]**). On average, vehicular trips account for approximately 93 percent of home to work/university trips, including 69.62 percent in single occupancy trips, 9.41 percent in two-person carpools, 6.7 percent in three-person carpools, and 7.64 percent in auto passenger trips. When accounting for all daily trips, on average vehicular trips account for approximately 88 percent of all daily trips, including 36.77 percent in single occupancy trips, 13.89 percent in two-person carpools, 8 percent in three-person carpools, and 29.39 percent in auto passenger trips. Public transit in all forms (including school buses) carries approximately 3.67 percent of all trips in the SCAG region. Of these, the greatest number of travelers is carried by buses, with lesser patronage on Metro Rail, paratransit, commuter rail, and other forms of public transit services. Trips made via public transit account for 3.9 percent of all home-to-work trips in the region and 3.67 percent of all daily trips (**Table 3.17-3**). Non-motorized trips account for 2.73 percent of all home-to-work trips in the region and 8.27 percent of all daily trips (**Table 3.17-3**).

**Table 3.17-1
Summary of Existing (2019) Daily Vehicle Miles and Percentage Vehicle Hours of Travel**

County	Vehicle Miles of Travel (VMT)						Vehicle Hours of Travel (VHT)					
	A.M. Peak Period		P.M. Peak Period		Daily		A.M. Peak Period		P.M. Peak Period		Daily	
	Miles	% of Region	Miles	% of Region	Miles	% of Region	Hours	% of Region	Hours	% of Region	Hours	% of Region
Imperial	1,271,630	1%	1,778,405	1%	6,972,810	2%	26,196	1%	35,949	1%	138,217	1%
Los Angeles	48,039,409	51%	67,738,731	50%	231,455,396	50%	1,629,854	56%	2,386,111	57%	7,237,696	56%
Orange	16,915,098	18%	23,360,202	17%	79,199,680	17%	512,120	18%	734,225	18%	2,198,344	17%
Riverside	12,249,014	13%	17,697,848	13%	60,611,222	13%	309,097	11%	442,695	11%	1,373,510	11%
San Bernardino	12,569,173	13%	17,843,149	13%	62,675,991	14%	307,050	11%	438,328	10%	1,398,218	11%
Ventura	4,034,942	4%	5,741,082	4%	19,238,217	4%	102,168	4%	150,881	4%	467,879	4%
Total	95,079,266	100%	134,159,418	100%	460,153,316	100%	2,886,484	100%	4,188,189	100%	12,813,866	100%

Source: SCAG Modeling, 2019

**Table 3.17-2
Summary of Existing (2019) Delay and Work Trip Length**

County	Vehicle Hours of Delay			% of Travel in Delay			Average Home-to-Work Trip Distance (miles)	Average Home-to-Work Trip Duration (minutes)	
	A.M. Peak Period	P.M. Peak Period	Daily	A.M. Peak Period	P.M. Peak Period	Daily	Vehicle Trips (A.M. Only)	Vehicle Trips (A.M. Only)	Transit Trips (A.M. only)
Imperial	1,834	2,830	9,631	0%	0%	0%	11.20	15.02	19.13
Los Angeles	462,855	751,645	1,686,548	65%	64%	67%	17.16	29.40	22.29
Orange	130,227	213,017	431,378	18%	18%	17%	16.00	24.74	21.51
Riverside	53,204	89,776	172,164	8%	8%	7%	20.68	32.65	20.13
San Bernardino	47,031	79,787	152,870	7%	7%	6%	20.63	30.58	20.84
Ventura	14,156	28,807	55,099	2%	2%	2%	17.62	25.36	20.26
Total	709,307	1,165,862	2,507,690	100%	100%	100%	17.53	28.57	21.59

Source: SCAG Modeling, 2019

**Table 3.17-3
Existing (2019) Travel Mode Split (Percentage of County Total)**

County	Person Trip Type	Drive Alone	2-Person Carpool	3-Person Carpool	Auto Passenger Trip	Transit	Non-Motorized	Total
Imperial	Home-Work/Univ	62.83%	10.40%	9.97%	6.27%	0.40%	10.13%	100%
	All Daily Trips	30.40%	13.66%	8.88%	27.29%	1.54%	18.22%	100%
Los Angeles	Home-Work/Univ	68.29%	9.17%	6.42%	7.66%	5.80%	2.66%	100%
	All Daily Trips	37.77%	13.58%	7.64%	28.62%	4.71%	7.68%	100%
Orange	Home-Work/Univ	70.75%	9.55%	6.93%	8.49%	1.82%	2.46%	100%
	All Daily Trips	39.95%	13.61%	7.52%	28.66%	2.50%	7.77%	100%
Riverside	Home-Work/Univ	73.33%	9.76%	6.74%	6.41%	0.98%	2.77%	100%
	All Daily Trips	31.33%	15.14%	9.22%	32.50%	2.29%	9.53%	100%
San Bernardino	Home-Work/Univ	71.98%	10.09%	7.27%	7.18%	1.14%	2.34%	100%
	All Daily Trips	33.74%	14.44%	9.08%	31.48%	2.53%	8.74%	100%
Ventura	Home-Work/Univ	69.85%	9.42%	7.33%	7.08%	1.93%	4.39%	100%
	All Daily Trips	36.05%	14.17%	8.10%	28.76%	2.29%	10.63%	100%
Total	Home-Work/Univ	69.62%	9.41%	6.70%	7.64%	3.90%	2.73%	100%
	All Daily Trips	36.77%	13.89%	8.00%	29.39%	3.67%	8.27%	100%

Source: SCAG, 2019

Regional Freeway, Highway, and Arterial System

The regional freeway, highway, and arterial system is the primary means of person and freight movement for the region (Table 3.17-4, Existing Regional Freeway Route Miles and Lane Miles by County [2019]). This system provides for direct auto, bus and truck access to employment, services and goods. The network of freeways, interstates, and highways serves as the backbone of the system, offering very high capacity limited-access travel and the primary heavy-duty truck route system. Deferred maintenance on roadways within the SCAG region has contributed significantly to the poor condition of many roadways and many need costly repairs to improve security and efficiency. The Plan will focus on preserving the existing transportation network, including preservation of roads, highways, bridges, railways, bicycle and pedestrian facilities, and transit infrastructures that lead to maintain mobility and provide cost-efficiency without increasing capacity.

Table 3.17-4
Existing Regional Freeway Route Miles and Lane Miles by County (2019)

County	Freeway Route Miles	Freeway Lane Miles
Imperial	95	380
Los Angeles	656	4687
Orange	227	1661
Riverside	319	1821
San Bernardino	471	2558
Ventura	94	536
Total	1,863	11,642

Source: SCAG Modeling, 2019

Arterial Street System

The local street system provides access for local businesses and residents. Principal arterials account for more about 79 percent of the arterial (principal and minor) network (Table 3.17-5, Existing Regional Arterial Lane Miles by County [2019]) and carry a high percentage of total traffic. In many cases arterials serve as alternate parallel routes to congested freeway corridors. Peak period congestion on the arterial street system occurs generally in the vicinity of activity centers, at bottleneck intersections and near many freeway interchanges.

**Table 3.17-5
Existing Regional Arterial Lane Miles by County (2019)**

County	Arterials	Lane Miles
Imperial	Principal	271
	Minor	556
Los Angeles	Principal	8,380
	Minor	8,983
Orange	Principal	3,589
	Minor	2,776
Riverside	Principal	1,152
	Minor	2,972
San Bernardino	Principal	1,753
	Minor	3,900
Ventura	Principal	810
	Minor	997
SCAG Total	Principal	15,955
	Minor	20,184

Source: SCAG Modeling, 2019

Regional High-Occupancy Vehicle (HOV) System and Park and Ride System

The regional HOV system consists of exclusive lanes on freeways and arterials, as well as busways and exclusive rights-of-way dedicated to the use of high-occupancy vehicles (HOVs). As described in **Table 3.17-6, Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)**, the HOV system includes lanes on freeways, ramps and freeway-to-freeway connectors. The regional HOV system is designed to maximize the person-carrying capacity of the freeway system through the encouragement of shared-ride travel modes. HOV lanes operate at a minimum occupancy threshold of either two or three persons. Many include on-line and off-line park and ride facilities, and several HOV lanes are full “transitways” including on-line and off-line stations for buses to board passengers.

Park and ride facilities are generally located at the urban fringe along heavily traveled freeway and transit corridors and support shared-ride trips, either by transit or by carpool or vanpool. Most rail transit stations have park and ride lots nearby. Park and ride lots in the SCAG region include: 106 in Los

Angeles County, 25 in Orange County, 26 in Riverside County, 18 in San Bernardino County, and 20 in Ventura County.²

Table 3.17-6
Existing Regional High-Occupancy Vehicle Lane Miles by County (2019)

County	HOV Total Lane Miles
Imperial	0
Los Angeles	483
Orange	252
Riverside	80
San Bernardino	114
Ventura	8
Total	935

Source: SCAG Modeling, 2019.

3.17.1.3 Public Transit

In Southern California public transit service is comprised of local and express buses, transitways, Rapid Bus, bus rapid transit (BRT), urban rail, including subway and light rail principally centered in the core of Los Angeles County, commuter rail that spans five counties and shuttles/circulators that feed all transportation modes and activity centers (**Table 3.17-7, SCAG Region Annual Fixed Route Transit Ridership**). Transit service is provided by approximately 67 separate public agencies. Twelve of these agencies provide 91 percent of the existing public bus transit service. Local service is supplemented by municipal lines and shuttle services while additional regional service is offered via private bus companies.

Many people depend on reliable transit service to participate in the economic, cultural, and social benefits of Southern California, and transit use is growing in the SCAG region (**Table 3.17-8, Statistics for Major Transit Operators for 2017**). According to data reported to the National Transit Database (NTD), transit agencies in the SCAG region experienced 655 million annual boardings and invested \$2.91 billion in operations and maintenance (O&M) in FY 2015–16. These services were operated by over 100 agencies, involving a wide variety of bus and rail transit modes.³

² IE511.org. 2018. *Southern California Park and Ride Lot Map*. Available online at: <http://www.ie511.org/rideshare/park-and-ride>, accessed January 31, 2019.

³ SCAG Connect SoCal, Transit Technical Report, 2019

Table 3.17-7
SCAG Region Annual Fixed Route Transit Ridership

Total Trips	2005	2008	2010	2012	2015	2016	2018
Metro Rail	74,242,912	86,707,131	95,596,698	101,516,533	106,974,667	108,089,770	108,017,525
Commuter Rail	10,693,327	12,680,973	7,398,000	13,155,790	10,693,000	13,758,419	12,681,000
Bus	611,308,450	627,639,691	548,728,000	587,830,836	609,795,000	525,376,865	622,286,000
Total	696,244,689	727,027,795	617,928,000	702,503,159	694,731,000	647,225,054	721,674,000
Passenger Miles	2005	2008	2010	2012	2015	2016	2018
Metro Rail	442,916,123	524,813,417	564,179,659	597,916,365	634,484,952	651,537,856	565,149,658
Commuter Rail	359,938,222	436,565,493	274,625,402	433,650,956	359,938,222	425,150,283	436,565,493
Bus	2,375,502,229	2,461,654,000	2,206,840,397	2,487,359,821	2,375,502,229	2,206,425,695	2,461,654,000
Total	3,178,356,574	3,423,032,910	3,045,645,458	3,518,927,142	3,369,925,403	3,283,113,834	3,463,369,151

Source: Metro, *Interactive Estimated Ridership Stats*, available online at: <http://isotp.metro.net/MetroRidership/Index.aspx>

Table 3.17-8
Statistics for Major Transit Operators for 2017

County	Largest Transit Operator	Average Weekday Boardings	Annual Boardings	Annual Vehicle Revenue Miles (VRM)	Passenger Fares as a % of Operation Expenses*
Fixed Bus Route Service					
Imperial	ICTC	2,914	815,712	1,190,021	11.2
Los Angeles	Metro	1,287,264	407,153,682	128,562,258	17.5
Orange	OCTA	138,739	42,863,498	40,725,024	10.5
Riverside	RTA	28,916	8,741,975	12,874,210	14.4
San Bernardino	Omnitrans	38,817	11,658,596	11,389,327	16.7
Ventura	Gold Coast Transit	11,676	3,718,811	2,927,067	14.5
Metro Rail					
Los Angeles	Metro	359,016	217,948,048	23,709,764	N/A
Regional Commuter Rail					
Various	SCRRA (Metrolink)	51,276	14,396,198	13,133,012	36.7

Source:

National Transit Database. 2018. *Annual Agency Profile, Region 9*. Available online at: <https://www.transit.dot.gov/ntd/transit-agency-profiles>, accessed September 24, 2019; and

Metro. *Interactive Estimated Ridership Stats, 2017*. Available online at: <http://isotp.metro.net/MetroRidership/Index.aspx>, accessed November 11, 2019.

Metro Rail System

Existing urban rail lines (Metro Rail) are located in Los Angeles County and are operated by Metro. They include the Metro Blue Line from Long Beach to Downtown Los Angeles, the Metro Green Line from Redondo Beach to Norwalk, the Metro Expo Line from Downtown Los Angeles to Santa Monica, and the Metro Red Line subway from Union Station to North Hollywood. The Metro Purple Line subway follows the Red Line from Union Station to Wilshire and Vermont but branches off to Western Avenue, and the Metro Gold Line that runs from East Los Angeles (Atlantic station) to Azusa via Union Station (shown in **Figure 2.0-3, Existing Transit Network [2018]**). The Metro Rail system is operated seven days a week. A system total of 98 route miles serves a total of 93 stations. Ridership on the Metro Rail system is approximately 359,000 boardings every day.

Commuter Rail and Intercity Passenger Rail

Commuter rail service is operated by the Southern California Regional Rail Authority (SCRRA). In October of 1992, the SCRRA began initial operation of the Metrolink commuter rail system on three lines. Service on the initial system was greatly expanded after the 1994 Northridge earthquake. Currently SCRRA operates seven routes including five from Downtown Los Angeles to Ventura, Lancaster, San Bernardino, Riverside, and Oceanside, from San Bernardino to Oceanside, and from Riverside via Fullerton or City of Industry to Downtown Los Angeles. As of Q3 2018-19, the system operated 173 trains on weekdays, 48 on Saturdays, and 42 on Sundays to 62 stations on 538 route miles. Average weekday ridership is approximately 38,436 passengers.⁴

Amtrak provides significant regional and interregional service on the Los Angeles–San Diego–San Luis Obispo (LOSSAN) Corridor (also known as Amtrak’s Pacific Surfliner corridor) operating 12 daily round-trip services, with service to Los Angeles Union Station (**Figure 3.17-5, Amtrak Railways**). Additionally, Amtrak operates four interstate routes within the region (Coast Starlight, Sunset Limited, Southwest Chief and Texas Eagle) that on average have one daily trip.⁵

Shuttles and Demand-Responsive Services

One component of the region’s public transit system consists of publicly operated or funded demand-response taxis and dial-a-ride services; some open to the general public, others limited to elderly and disabled use. It also includes locally operated or funded shuttle buses (e.g., Los Angeles DASH, Pasadena

4 Southern California Regional Rail Authority. 2018. *Facts and Numbers*. Available online at: <https://www.metrolinktrains.com/about/agency/facts--numbers/>, accessed September 24, 2019.

5 Amtrak. 2018. *Amtrak Routes and Destinations*. Available online at: <https://m.amtrak.com/h5/r/www.amtrak.com/routes.html>, accessed September 24, 2019.

ARTS, Glendale Beeline, Cerritos on Wheels, El Monte Transit, Riverside Orange Blossom, etc.). Access Paratransit, the largest provider of transportation services for the disabled in the region, operates in the vicinity of fixed-route bus and rail lines in Los Angeles County and extends into portions of the surrounding counties of San Bernardino, Orange and Ventura. These systems serve as local shuttles, internal circulators, connectors to other public transit, or as shoppers' shuttles. Service on these systems is usually limited to a prescribed geographic area.⁶

3.17.1.4 Active Transportation and Non-Motorized Transport

The California Active Transportation Program (ATP) was created to ensure all active modes of transportation, such as biking and walking, was accounted to meet the development of active transportation plans in disadvantaged communities as well as the implementation of non-infrastructure projects (i.e. education, enforcement activities). The use of bicycle as a means of transportation has several appealing aspects for an increasing share of travelers.

Bicycle and Pedestrian Facilities

Biking and walking primarily constitute non-motorized transportation. Non-motorized transportation plays a bigger role in the densely-populated, mixed-land-use areas of the region. Bicycling has positive air quality, economic, and health impacts, and can reduce automobile-related congestion and energy use. Similar to bicycle use, walking can also reduce auto emissions of both criteria pollutants and greenhouse gases from auto trips. Health in communities improve when there are options to increase physical outcome of activities, lower body weight, lower rates of traffic injuries, lower air pollution, and improve mobility for nondrivers. Currently, 32 percent of all walking trips are less than half a mile, and 59 percent of walking trips are less than a mile. The average bicycle trip is 3.1 miles (the majority of bicycle trips are discretionary). Walking trips made up 3.4 percent of all commute trips and 8 percent of all trips for the SCAG region. Bicycles make up 1.3 percent of all trips and 0.8 percent of commute trips for the SCAG region.⁷

The region's bikeways encourage non-motorized travel, serve as recreational facilities, and provide inexpensive, environmentally friendly transportation opportunities. Some of the strategies to encourage active transportation currently being considered are focused on addressing concerns related to equity and public health, refining models to account for recent changes in shared mobility, improving first-last mile

⁶ Access Services. *About Us*. Available online at: https://accessla.org/about_us/overview.html, accessed September 24, 2019.

⁷ Southern California Association of Governments. November 2019. SCAG Active Transportation Technical Report.

infrastructure, and improving compact community development through targeted High Quality Transit Areas (HQTAs). The bikeways are also designated to provide for allowable use and to encourage active use. Class I bikeways are separate shared-use paths also used by pedestrians, Class II bikeways are striped lanes in streets, and Class III bikeways are signed routes. There are approximately 5,075 bikeway miles in the region, with the majority in Los Angeles County, followed by Riverside and Orange County. Bike rack, locker, and station programs are ongoing in a number of cities and transit operators. In addition, transit operators are integrating bicycle transportation with transit via bus bike racks, bike-on-train programs and bicycle lockers at transit centers. **Figure 3.17-6, Existing Regional Bikeways**, and **Figure 3.17-7, Existing and Proposed Regional Bikeways (2045)**, show the existing and proposed bikeways in the SCAG region.

Pedestrian access at and near public transit, in most major commercial areas, and many residential areas is facilitated by sidewalks, a number of pedestrian malls, and in some cases local jogging and pedestrian trails or paths.

Micro-transit

Micro-transit is more flexible than traditional bus service in that it either utilizes dynamic routing, smaller vehicles or on-demand service that allows greater efficiency and convenience. Some micro-transit services exist in Southern California, but it can and must expand in order to meet riders' shifting needs and expectations. While accommodations should be made for those who do not possess smartphones or other technology to hail a ride or research a route, most transit riders could benefit from micro-transit.

Los Angeles Metro and Orange County Transportation Authority have partnered with private companies to pilot micro-transit services in their respective counties. These are projects that could change the way people ride transit, giving riders more options.

Micro-mobility

Micro-mobility strategies provide shared technology infrastructure and regulation frameworks to ensure that new technologies (e.g. app-based e-scooters and e-bikes) can be used safely and responsibly. These strategies range from incentives for the purchase of e-bikes, to the distribution of private micro-mobility devices that help ensure access for low-income communities. While it is expected that many of these devices will be provided through the private sector, they will still use public streets and will likely increase demand for separated facilities that are safe for all ages and abilities. Local cities will likely be tasked with the regulation of these devices and will likely need to manage the locations where parking is allowed and where they can be ridden.

3.17.1.5 Goods Movement

Goods movement generally refers to the movement of raw, semi-finished, and finished materials and products used by businesses and residents across the transportation system. These goods move in myriad ways and through complex systems, often using multiple modes of transportation (e.g., ships, trucks, trains, planes, etc.). Products can be produced within the U.S. or another country, and make their way to a business, retail store, or directly to consumers versus traditional purchases by consumers at physical retail outlets. The efficient movement of these goods are critical to maintain a strong economy and ensure improvements in the quality of life of regional residents.

Goods movement supports industries and activities that provide jobs, tax revenue, and resources that bolster innovation, creativity, and access to local and world markets through trade. This movement depends directly on the infrastructure that comprises the transportation network such as highways, rail lines, ports, and networks of warehousing and other distribution facilities. Maintaining and improving existing infrastructure, and expanding infrastructure capacity where appropriate, is key to ensuring the competitiveness of a growing economy. However, goods movement also has negative impacts and externalities. Growing trade and increased volumes of goods moving across the transportation system have contributed to greater congestion, safety concerns, harmful emissions of dangerous pollutants, wear-and-tear on roadways and impacts on local neighborhoods. As the Metropolitan Planning Organization (MPO) for the region, SCAG has adopted a vision for the region's goods movement system.

Federal law (23 U.S.C. §§ 134-135) mandates that MPOs encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas. Specifically, MPOs should consider projects and strategies that will increase the accessibility and mobility of people and for freight and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.⁸

At the state level, MPOS are required to perform regional transportation planning to prepare and provide for the region's mobility in a fiscally and environmentally responsible manner, consistent with the needs, preferences, and sensibilities of the community. This coincides with California Government Code 65041.1 (Cal Civ. Code § 65041.1) and identifies planning considerations for freight that are consistent with federal requirements.

⁸ United States Code. 2019. §134. *Metropolitan transportation planning*. Available online at: https://www.govregs.com/uscode/title23_chapter1_section134, accessed September 16, 2019.

Wholesale and retail trade, transportation, and manufacturing support over approximately 6 million jobs in the SCAG region according to statistics provided by the State's Employment Development Department.⁹

Heavy-Duty Trucks

Figure 3.17-8, Existing Regional Goods Movement System displays the regional goods movement system. One of the key components of the region's goods movement system is the fleet of heavy-duty trucks, defined as cargo-carrying vehicles with a gross weight rating in excess of 8,500 pounds. Trucks provide a vital link in the distribution of all types of goods between the region's ports (sea and air), railroads, warehouses, factories, farms, construction sites and stores. The size and weight of heavy-duty trucks gives them unique operating characteristics; that is, they accelerate and decelerate more slowly than lighter vehicles and require more road space to maneuver. Dedicated truck lanes currently exist at two major freeway interchanges: the junction of Interstate 5 (I-5) with the I-210 and State Route 14 (SR-14) and at the junction of the I-405 with the I-110. In addition, truck climbing lanes are located on northbound I-5 in northern Los Angeles County.

The trucking industry, including common carrier, private carrier, contract carrier, drayage and owner-operator services, handles both line-haul and pick-up and delivery. The industry uses the public highway system for over-the-road and local service. However, it is also served by a considerable infrastructure of its own. This infrastructure includes truck terminals, warehousing, consolidation and trans-loading facilities, freight forwarders, truck stops and maintenance facilities. These various facilities are especially prevalent in the South Bay and Gateway Cities areas, including Wilmington and Carson and extending generally between Los Angeles International Airport (LAX) and the San Pedro Bay Ports, along the I-710 Corridor north to Vernon, Commerce, and Downtown Los Angeles, east through the San Gabriel Valley to Industry, Pomona, and Ontario and then to the Inland Empire in Fontana and Rialto as well as in Glendale and Burbank. Specialized facilities for trucking that provide air cargo ground transport are located around regional airport facilities, notably LAX and LA/Ontario International Airport.

Railroads

The SCAG region is served by two main line commercial freight railroads—the Burlington Northern/Santa Fe Railway Co. (BNSF) and the Union Pacific Railroad (UP). These railroads link Southern California with other United States regions, Mexico, and Canada either directly or via their

⁹ State of California Employment Development Department. 2019. *Employment by Industry Data*. January. Available online at: <https://www.labormarketinfo.edd.ca.gov/data/employment-by-industry.html>, accessed January 30, 2019.

connections with other railroads. They also provide freight rail service within California. In 2017, railroads moved approximately 162.3 million tons of cargo throughout California.¹⁰

The SCAG region is also served by three short line or switching railroads:

The Pacific Harbor Line (formerly the Harbor Belt Railroad), which handles all rail coordination involving the Ports of Los Angeles and Long Beach, including dispatching and local switching in the harbor area;

- Los Angeles Junction Railway Company, owned by BNSF, which provides switching service in the Vernon area for both the BNSF and UP;
- The Ventura County Railroad, owned by Rail America, Inc., which serves the Port of Hueneme and connects with the UP in Oxnard.

These railroads perform specific local functions and serve as feeder lines to the trunk line railroads for moving goods to and from Southern California.

The two main line railroads also maintain and serve major facilities in the SCAG region. Intermodal facilities in Commerce (BNSF-Hobart), East Los Angeles (UP), San Bernardino (BNSF), and Carson near the San Pedro Bay Ports (UP-ICTF), the Los Angeles Transportation Center (UP-LATC), and the UP-City of Industry yards serve on-dock rail capacity at the Ports of Los Angeles (UP/BNSF) and Long Beach (UP/BNSF).

All major rail freight corridors in the region have some degree of grade separation, but most still have a substantial number of at-grade crossings on major streets with high volumes of vehicular traffic. These crossings cause both safety and reliability problems for the railroads and for those in motor vehicles at the affected crossings. Trespassing on railroad rights of way by pedestrians is another safety issue affecting both freight and commuter railroads.

3.17.1.6 Regional Aviation System

The SCAG region supports the nation's largest regional airport system in terms of number of airports and aircraft operations, operating in a very complex airspace environment. The SCAG region contains seven commercial airports with scheduled passenger service, seven government/military air fields, and over 30 reliever and general aviation airports. The existing active commercial service airports handle the majority

¹⁰ Association of American Railroads. 2018. *U.S. Freight Railroad Industry Snapshot: California*. Available online at: <https://www.aar.org/data-center/railroads-states/#state/CA>, accessed January 30, 2019.

of passenger air traffic (see **Figure 3.9-1, Airports in the SCAG Region**, in **Section 3.9, Hazards and Hazardous Materials**).

- Los Angeles International Airport (LAX)
- Ontario International Airport (ONT)
- John Wayne/Orange County Airport (SNA)
- Hollywood Burbank Airport (BUR)
- Imperial County Airport (limited commercial service) (IPL)
- Long Beach Airport (LGB)
- Palm Springs International Airport (PSP)

In all, approximately 110.2 million annual passengers (MAP) were served in the region in 2017, a 28 percent increase over 2012. The level of regional aviation demand forecasts related to MAP has been decreasing, with approximately 165.3 MAP by 2035 in the 2008 RTP, 145.9 MAP by 2035 in the 2012 RTP/SCS, and 136.2 MAP by 2040 in the 2016 RTP/SCS.¹¹ In 2017, Los Angeles International Airport (LAX) led the largest share of air passengers with approximately 77%, followed by John Wayne Airport at 10%, Hollywood Burbank Airport at 4%, and Ontario International Airport at 4%.¹² The SCAG region is forecast to have 197.1 MAP by 2045. In 2017, the SCAG region was one of the most active and fastest growing regions for air passenger traffic in the United States, second only to the New York/New Jersey region for air passenger traffic. Moreover, the growth rate of 5.12 percent for the SCAG region from 2012 to 2017 was second only to the Bay Area. LAX accounts for the largest proportion of passenger volume, cargo, and annual operations. A brief discussion of the location, major access routes, and facilities at seven major airports is provided below.

Hollywood Burbank/Bob Hope Airport (BUR)

Located in the San Fernando Valley northwest of downtown Burbank, the Hollywood Burbank Airport (also known as Bob Hope Airport) is a publicly owned airport operated by the Burbank-Glendale-Pasadena Airport Authority. Major vehicular access is provided by I-5, Hollywood Way, San Fernando Road, and Vanowen Street. Burbank Airport is currently in the project planning process for a new, relocated terminal, which would enable faster processing while maintaining existing capacity. Burbank Airport has dedicated transit and rail facilities for passengers coming to and from the airport and is the only airport in the SCAG region with a direct rail connection to Downtown Los Angeles via Amtrak and Metrolink. Burbank Airport averages 354 aircraft operations per day, including 38 percent commercial and 29 percent transient general aviation. Burbank Airport served 4.7 MAP in 2017, a 20 percent increase over 2015.

¹¹ Southern California Association of Governments. November 2019. Aviation Technical Report.

¹² Ibid.

Imperial County Airport (IPL)

Imperial County Airport is located in the City of Imperial, approximately 12 miles north of the California-Mexico border. The airport provides limited scheduled air service and serves the general aviation needs of the surrounding communities. It is part of the Essential Air Service (EAS) program through the US Department of Transportation, providing residents of Imperial County a connection to the national aviation system by subsidizing air service to eligible small community airports. Currently, only one scheduled passenger airline operates out of IPL, carrying passengers to LAX or BUR. IPL averages 38 aircraft operations per day, including 43 percent general aviation and 25 percent military. IPL served 11,812 passengers in 2017, down from a peak of approximately 30,000 passengers in 2001.

Long Beach Airport/Daugherty Field (LGB)

Long Beach Airport is located approximately four miles northeast of downtown Long Beach. Built in 1941, the Long Beach Airport terminal is a Cultural Historic Landmark. In 2017, a new concourse was opened, and a new ground transportation center is currently being constructed. The arrival of low-cost carrier JetBlue in 2001 led to a rapid increase in air traffic and solidified the airport as an alternative to LAX for east coast destinations. The airport primarily serves general aviation aircraft. LGB averages 811 aircraft operations per day, including 51 percent local general aviation and 34 percent transient general aviation. LGB served 3.8 MAP in 2017 and averages approximately 25,000 tons of cargo per year.

Los Angeles International Airport (LAX)

Located 18 miles southwest of Downtown Los Angeles, LAX is the publicly owned primary airport serving the Greater Los Angeles Area. As the largest airport in the region and the fourth busiest in the world for passenger traffic, LAX plays a critical role in the movement of people and cargo throughout the region. When factoring out connecting flights, LAX is the busiest origin and destination airport in the world for passenger traffic. LAX is also the 13th busiest cargo airport in the world by tonnage. LAX is currently undergoing a major renovation known as the Landside Access Modernization Program, which will include an elevated Automated People Mover; two Intermodal Transportation Facilities with drop-off areas; a Consolidated Rental Car Facility; and a comprehensive series of roadway improvements. In addition, Metro's Crenshaw/LAX Line is set to open in summer 2020, providing a light rail connection from the Automated People Mover to destinations throughout South Los Angeles, ultimately connecting to the Expo and Green Lines. LAX averages 1,603 aircraft operations per day, including 92 percent commercial aviation. Passenger traffic at LAX has steadily increased since the 2008 Recession, from 59 MAP in 2010 to 84.6 MAP in 2017. LAX accommodates over 70 percent of the air passenger travel in the SCAG region.

Ontario International Airport (ONT)

Ontario International Airport is located in the City of Ontario in San Bernardino County. It is accessed primarily via I-10 and SR-60. Southwest Airlines is the largest carrier operating at the airport, and ONT is also a major cargo hub for UPS, due to its long runways and relatively limited noise restrictions. Ontario Airport averages 267 aircraft operations per day, including 63 percent commercial and 18 percent air taxi. Currently, ONT averages approximately 4 MAP, though at one point in the early 2000s, that number went as high as 7 MAP.

Palm Springs International Airport (PSP)

Palm Springs International Airport is located in the desert resort city of Palm Springs in the Coachella Valley of Riverside County. The airport primarily caters to seasonal leisure travelers visiting during the winter. PSP averages 142 aircraft operations per day, including 37 percent commercial and 34 percent transient general aviation. Peak travel occurs during the fall, and the airport served 2.1 MAP in 2017.

John Wayne Airport (SNA)

John Wayne Airport is owned and operated by the County of Orange and is not located in an incorporated city. However, it is surrounded by the cities of Santa Ana, Irvine, Newport Beach, and Costa Mesa and accessible by the I-405 and SR-73 freeways. SNA is 503 acres with 20 gates for commercial airlines and two commuter terminals, and general aviation outnumbered commercial operations. Strict noise regulations impact when flights can fly in and out of John Wayne Airport. Commercial departures between 10 PM and 7 AM (8 AM on Sundays) and arrivals between 11:00 PM and 7 AM (8 AM on Sundays) are prohibited. Additionally, special takeoff procedures for most aircraft require a steep climb followed by an abrupt power reduction at approximately 500 feet for quiet passage over Newport Beach. SNA served 10.4 MAP in 2017, making it the second busiest airport in the SCAG region.

3.17.1.7 Maritime Ports

Southern California is served by three major deep-water seaports. These ports—Hueneme, Long Beach, and Los Angeles—handle Asia–North America trade and are served by the two major railroads and numerous trucking companies in Southern California. The Port of Hueneme, with its recent expansion, ranks as one of the premier automobile and agricultural product-handling facilities in California. The Ports of Long Beach and Los Angeles are full-service ports with facilities for containers, autos and various

bulk cargoes. With an extensive landside transportation network, the three ports moved more than 370 million metric tons of cargo in 2017.^{13,14,15}

In particular, the San Pedro Bay Ports (Long Beach and Los Angeles) dominate the container trade in the Americas by shipping and receiving nearly 17 million 20-foot Equivalent Units (TEUs) of containers in 2018.^{16,17} Together these two ports rank third in the world, behind Rotterdam and Hong Kong, as the busiest maritime ports.

3.17.1.8 Transportation Hazards

Based on average accident rates provided by Caltrans, transportation-related fatalities in 2015 occurred at an overall rate of 1.01 fatalities per 100 million vehicle miles traveled, taking into account the varying accident rates on different facility types (freeway, arterials) and travel modes (bus transit, rail transit).¹⁸ In 2015, the most recent date for which data is available, more than 1,700 people died and nearly 160,000 were injured on roadways throughout the SCAG region (**Table 3.17-9, Total Vehicle Fatalities and Injuries in the SCAG Region (2016)**). On any given day in Southern California, six people are killed by a car or truck. In 2016, in the SCAG region, more than 1,700 people died including more than 70 cyclists and nearly 500 pedestrians. The problem is getting worse: the number of pedestrians killed in crashes grew 50 percent between 2011 and 2016. The leading cause of serious injuries and fatalities in collisions is unsafe speed.¹⁹

¹³ Port of Los Angeles. 2018. *Tonnage Statistics*. Available online at: <https://www.portoflosangeles.org/business/statistics/tonnage-statistics>, accessed January 30, 2019.

¹⁴ Port of Long Beach. 2018. *Monthly Tonnage Summary Report*. Available online at: <http://www.polb.com/civica/filebank/blobload.asp?BlobID=14331>, accessed January 30, 2019.

¹⁵ Port of Hueneme. 2017. *2017 Dock Talk Year End Review*. Available online at: <https://www.portofhueneme.org/port-releases-2017-year-end-review/>, accessed January 30, 2019.

¹⁶ Port of Los Angeles. 2018. *Latest Monthly Container Counts*. Available online at: <https://www.portoflosangeles.org/business/statistics/container-statistics>, accessed January 30, 2019.

¹⁷ Port of Long Beach. 2018. *Latest Monthly TEUs*. Available online at: http://www.polb.com/economics/stats/yearly_teus.asp, accessed January 30, 2019.

¹⁸ California Office of Traffic Safety. *California Traffic Safety Quick Stats*. Available online at: <https://www.ots.ca.gov/ots-and-traffic-safety/score-card/>, accessed November 18, 2019.

¹⁹ SCAG Connect SoCal Plan, *Transportation Safety and Security Technical Report*, November 2019

**Table 3.17-9
Total Vehicle Fatalities and Injuries in the SCAG Region (2016)**

County	Bicycle Victims Killed and Injured	Pedestrian Victims Killed or Injured	Total Injuries	Total Fatalities
Imperial	20	20	783	34
Los Angeles	3,777	5,744	90,621	847
Orange	1,000	929	22,898	205
Riverside	379	556	20,589	295
San Bernardino	324	563	15,991	272
Ventura	277	243	7,013	58
Total	5,777	8,055	157,895	1,711

Source: SCAG, *Connect SoCal, Transportation Safety and Security Technical Report, November 2019.*

Safety, Security and Emergency Access

Southern California is home to significant natural disasters, including earthquakes, wildfires, flooding, and mudslides (discussed in **Section 3.7, Geology and Soils**, and **Section 3.20, Wildfire**). Although natural disasters, such as earthquakes and hurricanes, have produced significant regional casualties and property damage, none had the serious disruption to national travel and the national economy as the September 11, 2001, terrorist attacks. The 9/11 attacks created a new awareness of the vulnerabilities of transportation fleets and facilities. As concern about the threat of terrorism and consequences of natural disasters has grown, government (at all levels) has taken new measures to secure the welfare of its citizens. Transportation and transit agencies throughout the United States are taking increasing steps to protect their facilities against the threats of crime, terrorist activity, and natural disasters.

A large-scale evacuation would be difficult in the SCAG region. The region already has severe traffic congestion and mobility issues. The region encompasses 38,000 square miles with a diverse geography, ranging from dense urban areas, to mountain ranges, to vast deserts. The interdependency of the jurisdictions and organizations makes regional cooperation and coordination essential to security and emergency preparedness. Typically, no single agency is responsible for transportation security. At the local level, especially within transit agencies, safety may be handled within one office. However, it is far less likely that the security of a surface transportation mode is managed by one entity and that this entity is even controlled by the transportation organization. For example, highways and transit networks traverse multiple police jurisdictions, local fire departments generally fill the incident command role after terrorist events, regional command and control centers respond to both natural and intentional disasters,

and federal agencies intervene as needed and based on specific guidelines such as the crossing of state boundaries.

The complexity of the SCAG region, with a range of potential terrorism targets, presents significant challenges in coordinating and implementing effective homeland security programs. The unexpected and complex nature of these natural and human-caused incidents require extensive coordination, collaboration and flexibility among agencies and organizations involved in planning, mitigation, response and recovery.

As described above, the SCAG region has an extensive transportation system, with more than 73,800 miles of freeway and arterial lanes and 5,000 miles of bikeways. As of 2019, the region had 15.8 million licensed drivers and 12.7 million registered vehicles.²⁰ As of 2016 (most recent year data was available), 1,711 people died and 157,895 were injured in traffic collisions in the region. Therefore, safeguarding the Southern California transportation safety to minimize accidents on-road for vehicles and pedestrians is an important focus of the region.

The Transportation Research Board has classified emergency events that affect transportation agencies into several categories (**Table 3.17-10, Transportation Security Vulnerabilities**).

**Table 3.17-10
Transportation Security Vulnerabilities**

Roadways and Freeway	
Freeway Lanes Miles (excluding carpool)	11,642 miles
Carpool Lane Miles	935 miles
Road Lane Miles	135,578 miles
Public Transit	
Buses	5,851 vehicles
Metro Rail	98 miles and 93 stations
Metrolink	538 miles and 62 stations
Aviation/Ports	
Commercial/General Aviation Airports	56
Regional Airport Activity Levels	110.2 MAP to 200 nonstop destinations
Long Beach/Los Angeles rank among world container ports	9th
Share of United States Maritime Trade	40 percent

Source: SCAG Modeling, 2019; Metrolink Fact Sheet; SCAG Regional Guide 2019

²⁰ SCAG, *Regional Guide 2019*. Available online at: <http://www.scag.ca.gov/Documents/scag-2019-Regional-Guide.pdf>, accessed September 30, 2019.

Rail and Mass Transit

The dispersed nature and the daily volume of passengers using public transportation services, which include intercity passenger rail, commuter rail, subway systems, and bus transportation, make it an attractive target for terrorists and criminals. **Table 3.17-10, Transportation Security Vulnerabilities**, provides a summary of the regional transit system.

- 105 miles of heavy and light rail
- 534 miles of commuter rail (Metrolink)
- 9,000 miles of bus routes
- 5,075 miles of bikeways
- 135,578 total lane miles of roadways
- 94 miles of express lanes

The numbers of customers using public transportation every day creates ongoing challenges for enhancing security within transit environments. Plans have been implemented to provide for basic protection. In the early 1990s, the California Public Utilities Commission required that transit agencies operating rail systems prepare a comprehensive System Safety Program Plan (SSPP) that also included a security component. Since 2004, all transit agencies are required to include a security and emergency management plan, which details how the agency would coordinate with first responder (law enforcement and fire) agencies, their respective County Office of Emergency Services and the Statewide Standardized Emergency Management System (SSEMS).

International Border Crossings

Within the SCAG region, there are three international ports of entry along the Mexico–Imperial County border: two at Calexico (Calexico and Calexico-East); and, one at Andrade (near Yuma, Arizona). Traffic from these ports enters California on the I-8 corridor. U.S. Customs and the Border Protection Agency within the Department of Homeland Security (DHS) are charged with the management and control of the official ports of entry. Security planning includes local emergency services, as well as the CHP.

Caltrans District 11 has developed the California–Baja California Border Master Plan, which establishes a process to institutionalize dialogue among local, state and federal stakeholders in the United States and Mexico. A key objective was to develop criteria that can be used in future studies to coordinate and prioritize projects related to existing and new Ports of Entry (POEs), as well as roads leading to the

California Mexico POEs. Security was a major consideration in the development of the Border Master Plan.

Security at Seaports

The DHS has designated the seaports of Long Beach, Los Angeles, and Port Hueneme as at risk for potential terrorist actions.²¹ Security at the ports is the joint responsibility of the U.S. Coast Guard, the U.S. Customs and Border Protection Agency, federal and State Homeland Security offices, Port police agencies, Harbor Patrols and emergency service agencies. The U.S. Coast Guard leads the local Area Maritime Security Commission, which coordinates activities and resources for all port stakeholders.

The Port of Los Angeles has a dedicated police force, the Los Angeles Port Police, to patrol the area within the jurisdiction of the Port of Los Angeles. The Port Police enforce federal, state, and local public safety statutes, as well as environmental and maritime safety regulations, in order to maintain the free flow of commerce and produce a safe, secure environment that promotes uninterrupted Port operations. In addition, the Port Police partner with other law enforcement agencies, such as the Los Angeles Police Department, CHP, and Customs and Border Protection in the Cargo Theft Interdiction Program (CTIP), which investigates cargo theft, and the High Intensity Drug Trafficking Area, which targets drug trafficking at the Ports of Los Angeles and Long Beach. Furthermore, per the Maritime Transportation Security Act of 2002, the Port of Los Angeles works with the Coast Guard to develop security plans for facilities at the port.

Similar to the Port of Los Angeles, security at the Port of Long Beach entails physical security enhancements, police patrols, coordination with federal, State, and local agencies to develop security plans for the port area and investigate suspicious incidents and obtaining federal funding to pay for these enhancements. As with the Port of Los Angeles, the Port of Long Beach works with the Coast Guard to develop security plans for facilities at the port. In contrast to the Port of Los Angeles, however, the Port of Long Beach does not have its own dedicated police force. Instead, the Long Beach Police Department is responsible for patrolling the port area. In doing so, the Port reimburses the Long Beach Police and Fire Departments for their port-related activities and expenses. The Port also funds its own Harbor Patrol to supplement law enforcement work conducted by other agencies such as the Coast Guard.

In addition to the above, several programs are in place to effectively monitor and screen seaport cargo. They include:

²¹ Maritime Logistics Professional. 2017. *Security and the Ports*. September. Available online at: <https://www.maritimeprofessional.com/blogs/post/security-and-the-ports-of-los-angeles-and-long-beach-15234>, accessed January 30, 2019.

Investigations

The federal Container Security Initiative (CSI) directs Customs agents, working with host governments, to inspect and examine all cargo containers deemed high-risk before they are loaded on U.S.-bound vessels. The CSI contains four core elements: identifying high-risk containers, pre-screening containers before they reach U.S. ports of entry, using technology to prescreen high-risk containers and developing and using smart and secure containers.

Inspections

The 24-hour rule requires manifest information on cargo containers to be delivered to U.S. Customs 24 hours before the container is loaded onto a vessel in a foreign port. Customs has the right to stop any container from being loaded, for any reason, while the container is still overseas.

Partnerships

Most of the largest U.S. importers and their trading partners participate in the Customs-Trade Partnership Against Terrorism (C-TPAT), a public-private partnership designed to improve security standards throughout the cargo supply chain.

Technology

U.S. Customs uses X-ray, gamma ray and radiation-detection devices to screen incoming cargo at U.S. ports.

3.17.2 REGULATORY FRAMEWORK

This regulatory framework focuses on the federal, state, and local statutes and regulations where the primary objective is improvement of transportation systems, standards, and travel demand measures. However, there are other regulations that are focused on increased energy efficiency and reduction of greenhouse gas emissions, that if accomplished would be expected to contribute to improvement in traffic levels. Those regulations have been addressed respectively in **Section 3.6, Energy**, and **Section 3.8, Greenhouse Gases**.

3.17.2.1 Federal

Federal Clean Air Act (CAA) Transportation Conformity

Congress passed the first major CAA (42 U.S. Code [USC] § 7506(c)) in the 1970s which gives EPA primary responsibility to regulate mobile and stationary sources of emissions and direct states to develop

SIPs and required conformity determinations for areas designated nonattainment against the NAAQS, which included all six counties in the SCAG region. Conformity analysis and determination can be done at a regional level. SCAG provides a regional transportation conformity analysis in the Plan to address all nonattainment areas within the six county- region. The regional conformity determination is updated every four years with the RTP and associated FTIP and is done as a part of the project-level conformity process for regionally significant projects as they occur. A hot spot analysis is provided to confirm that the project will not cause or worsen a localized violation of the standard for carbon monoxide (CO) or particulate matter (PM10 and/or PM2.5) in the existing nonattainment area. For more information, refer to Section 3.3 Air Quality.

Metropolitan Transportation Planning

The provisions of Title 23 USC Section 134 *et seq.* provides direct authority for Metropolitan Planning Organizations (MPOs) such as SCAG to act as a regional transportation planning organization with direct responsibility for carrying out the Regional Transportation Plan (RTP). SCAG is tasked with carrying out the transportation planning process and adopting long-range transportation plans. Collaborating with state and public transportation operators, SCAG undertakes a performance-driven, outcome-based approach to planning for the six county regions. SCAG must prepare a transportation plan to be updated every four years, including identification of transportation facilities and factors for each mode of non-motorized transport to major roadways, transit, multimodal and intermodal facilities, and connectors that should function as an integrated system serving regional transportation functions. The scope of transportation planning process is to provide consideration of projects and strategies that will achieve the following objectives (23 U.S.C. § 134(g)(3)(A)):²²

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and

²² U.S. Code. 23 USC 134: Metropolitan transportation planning.

economic development patterns; Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system;
- Improve the resiliency of and reliability of the transportation system, and reduce stormwater impacts of surface transportation; and
- Enhance travel and tourism

Fixing America's Surface Transportation Act (FAST)

The Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94), enacted in 2015, builds on the changes to federal transportation planning law made by MAP-21.²³ It was the first long-term surface transportation authorization enacted in a decade that provides long-term funding certainty for surface transportation.²⁴ The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway improvements, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act maintains the focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects.

Under the FAST Act and its predecessors, MPOs such as SCAG must prepare long-range transportation plans and update them every four years if they are in areas designated as "nonattainment" or "maintenance" for federal air quality standards. Per federal requirements, long-range transportation plans must:²⁵

- be developed through an open and inclusive process, that ensures public input; seeks out and considers the needs of those traditionally underserved by existing transportation systems;
- consults with resource agencies to ensure potential problems are discovered early in the planning process;

²³ The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012 (PL 112-141).

²⁴ Federal Highway Administration. *Fixing America's Surface Transportation Act*. Available at: <https://www.fhwa.dot.gov/fastact/>, accessed December 18, 2018.

²⁵ Government Publishing Office. *Fixing America's Surface Transportation Act*. Available online at: <https://www.govinfo.gov/content/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf>, accessed August 29, 2019.

- be developed for a period of not less than 20 years into the future; long-range transportation plans must reflect the most recent assumptions for population, travel, land use, congestion, employment and economic activity;
- have a financially-constrained element, transportation revenue assumptions must be reasonable, and the long range financial estimate must take into account construction-related inflation costs;
- include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- include a system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that detail progress over time;
- include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally-developed measures;
- conform to the applicable federal air quality plan, called the State Implementation Plan, for ozone and other pollutants for which an area is not in attainment; and
- consider planning factors and strategies in the local context.

Congestion Management Process (23 USC § 134(k))

A congestion management process (CMP) is a systematic and regionally-accepted approach for managing congestion that provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs. A CMP is required in metropolitan areas with a population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements state that in all TMAs the CMP must be developed and implemented as an integrated part of the metropolitan transportation planning process.²⁶

Federal Highway Administration Congestion Management Process

23 CFR § 450.320 requires transportation management agencies like SCAG to address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities through the use of travel demand reduction and operational management strategies. Federal guidance recommends use of

²⁶ U.S. Code. 23 USC 134: Metropolitan transportation planning.

performance measures that includes vehicle-to-capacity ratios and level of service on a selected network of significant routes in a region.²⁷

3.17.2.2 State

Regional Transportation Plan Requirements

MPOs are required to prepare RTPs that also meet state requirements. Pursuant to Government Code sections 65080 *et seq.* each MPO must prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan must be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials.²⁸

Under California Code Section 14522, the California Transportation Commission (CTC) is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC's RTP guidelines identify state and federal requirements for the development of RTPs, and methods to achieve these requirements. The guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the Bureau of the Census), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The RTP guidelines include provisions for complying with Senate Bill 375 (see below), as well as guidelines for regional travel demand modeling.²⁹

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008 (Senate Bill [SB] 375, Chapter 728, Statutes of 2008) requires MPOs to prepare a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its GHG reduction targets through integrated land use, housing, and transportation planning. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern for the plan area and will reduce GHG emissions from automobiles and light duty trucks in accordance with targets set by the California Air Resources Board (California Govt. Code Section 65080(b)(2)(B)). The targets accepted by CARB for GHG quantification for

²⁷ Government Publishing Office. §450.320.

²⁸ California Legislative Information. *Chapter 2.5. Transportation Planning and Programming [65080-65086.5]*. Available online at:

²⁹ California Transportation Commission. *Regional Transportation Plan (RTP) Guideline*. Available online at: <https://catc.ca.gov/programs/transportation-planning>, accessed August 29, 2019.

SCAG are an 8 percent reduction in per capita GHG emissions by 2020, and a 19 percent per capita reduction by 2035, in both cases with 2005 as a base year.³⁰

While increasing the SB 375 targets, CARB also noted that the increase fell short of what was needed to fully achieve state goals on GHG emissions reduction and climate change mitigation. In combination, the staff report and presentation materials to the CARB Board show that in total, the revised SB 375 GHG emissions reduction targets for all of the state's MPOs would result in a statewide reduction of 19 percent (compared to 18 percent from the prior SCS achievement), but that a 25 percent reduction was needed to fully meet the GHG emissions reduction goals of the Scoping Plan. The difference between the 19 percent resulting from CARB's updated SB 375 targets and the 25 percent identified need is referred to in other various CARB documents as the "gap."

In the SB 375 target resetting, CARB recognized that additional state action was needed to close this gap. "The recommended targets also recognize that additional State policy and funding tools are being developed to support further VMT reduction that will both help the State overall in achieving needed emission reductions and support MPOs in their ability to achieve higher targets by 2035." The categories of state action to accomplish this, with help of MPOs and other organizations, were: funding mechanisms to incentivize infill development; improved performance analysis to assist agencies in funding supportive transportation projects; expanding investment in transit and active transportation; and pricing policies and programs. All focus on VMT reduction.

Two additional state documents provide context for understanding how these GHG emissions reduction targets relate to the transportation issues discussed in this section. One is the Scoping Plan itself, which also recognizes that statewide collaboration is needed to address the gap; and further, that the gap in GHG emissions reductions would be closed through VMT reduction strategies:

Discussions among a broad suite of stakeholders from transportation, the building community, financial institutions, housing advocates, environmental organizations, and community groups are needed to begin the process to pursue and develop the needed set of strategies to ensure that we can achieve necessary VMT reductions, and that the associated benefits are shared by all Californians.

³⁰ California Air Resources Board. *SB 375 Regional Plan Climate Targets*. Available online at: <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>, accessed December 18, 2018.

The second document, published by CARB in January 2019, provided additional detail on the scope of the challenge, and its relationship to CEQA:

An RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050. This means that SB 375 targets are not stand-alone CEQA thresholds for GHG or transportation impact analysis (though SCS compliance may nonetheless entitle projects to certain CEQA exemptions or streamlining procedures pursuant to statute). In other words, a project that is consistent with an SCS may be eligible for certain exemptions, but compliance does not necessarily more broadly imply consistency with state climate goals nor with science based GHG reduction targets, in CARB staff's non-binding view. Some land use development projects contemplated in an SCS that will be operational in 2030 and 2050 will be consistent with state climate goals, and SB 375 defines project circumstances under which CEQA streamlining is available to qualified projects consistent with an SCS. Other projects may need to consider additional mitigation measures to further reduce per capita light-duty transportation-related GHG emissions to levels that would not conflict with state climate goals. Likewise, certain transportation infrastructure projects that will be operational in 2030 and 2050 that substantially increase VMT may conflict with state climate goals, even if they are included in an SCS that meets the applicable SB 375 targets.

CARB focused on the VMT reductions needed over current conditions (2015-2018) to meet the state's 2030 and 2050 climate goals. CARB concluded (using assumptions a cleaner fuels and technologies scenario) that a 14.3 percent reduction in daily VMT per capita and a 16.8 percent reduction in light-duty VMT per capita was needed to meet these goals (see also discussion in **Section 3.8 Greenhouse Gases**).

Senate Bill 743

SB 743 (Steinberg) was signed into law by Governor Jerry Brown on September 27, 2013, and encourages development of mixed-use, transit-oriented infill projects by: (1) establishing new CEQA exemptions for transit-oriented developments located in Transit Priority Areas (TPAs) that are consistent with an adopted Specific Plan; (2) eliminating the requirement to evaluate aesthetic and parking impacts in those targeted development areas; and (3) directing the OPR to develop an alternative metric to evaluate transportation-related impacts under CEQA.³¹

SB 743 exempts from CEQA, a residential, employment center, or mixed-use development project, including any subdivision, or any zoning, change that meets all of the following criteria:

- 1) The project is proposed within a transit priority area.
- 2) The project is undertaken to implement and is consistent with a specific plan for which an environmental impact report has been certified.

³¹ California Legislative Information. 2013. *Senate Bill No. 743*.

- 3) The project is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy accepted by the State Air Resources Board.³²

Furthermore, “[a]esthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.”³³ However, the exemption for aesthetic impacts does not include impacts to historic or cultural resources. Local governments retain their ability to regulate a project’s transportation, aesthetics, and parking impacts outside of the CEQA process pursuant to local design review ordinances or other discretionary powers.

A Transit Priority Area (TPA) is an area that is located within one-half mile of an existing or planned major transit stop. A “major transit stop” refers to a site containing an existing rail transit station or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. To qualify as a TPA, a planned major transit stop needs to be scheduled for completion within the planning horizon included in the adopted FTIP or RTP. A TPA is a subset of the High Quality Transit Areas (HQTA) described in the Plan, excluding the one-half-mile buffer area along the high-quality transit corridors (which are corridors with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours).

For infill development, including transit-oriented development (TODs), SB 743 provides a rationale for the development of a new metric to evaluate CEQA transportation impacts. Prior to SB 743, CEQA transportation impacts were primarily assessed (at least at the project level) through “Level of Service” (LOS) and other congestion or delay-based analyses, which focused exclusively on motor vehicle delay. This often penalizes infill and active transportation projects. SB 743 establishes that the new transportation impact analysis methodology should appropriately balance the needs of congestion management with statewide goals related to transit-oriented mixed-use infill development, promotion of public health through active transportation, and reduction of GHG emissions. These principles complement the goals and policies of the SCAG Plan outlined in **Section 2.0, Project Description**, of this PEIR.

SB 743 directed OPR to identify appropriate criteria for the evaluation of transportation impacts. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. SB 743 also established that aesthetic and parking effects of a residential, mixed-use residential,

³² See Pub. Res. Code § 21155.4.

³³ Pub. Res. Code § 21099(d).

or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised *CEQA Guidelines* that implement SB 743 became effective on December 28, 2018, and indicate that VMT is the basis for evaluation of transportation impacts.³⁴ Vehicle LOS and similar measures related to delay are not identified as appropriate metrics for determining the significance of transportation impacts under CEQA, although they may still be appropriate for evaluation of projects as part of the planning process.

CEQA Guidelines section 15064.3(c) indicates that each jurisdiction throughout the state has until July 1, 2020, this requirement to adopt VMT as the metric for evaluation of transportation impacts shall apply statewide, but that until that date, lead agencies may elect to use VMT and/or LOS to analyze transportation impacts (although CEQA has already been revised to indicate VMT as the appropriate metric for evaluation of transportation impacts).

The following state guidance has been produced:

- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018);³⁵
- The 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (CARB 2019);³⁶
- Caltrans Strategic Management Plan (2015 – 2020);³⁷ and
- Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015-2020 Consistent with SB 743 (Caltrans 2016).³⁸

With respect to identifying what represents an appropriate threshold of significance for VMT impacts, the California Air Resources Board (CARB) published the *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (CARB Report)³⁹ which includes non-binding technical information on

³⁴ *CEQA Guidelines* § 15064.3.

³⁵ Governor's Office of Planning and Research. *Technical Advisory – On Evaluating Transportation Impacts in CEQA*. Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, accessed July 25, 2019.

³⁶ California Air Resources Board. *CARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (Jan. 2019). Available online at: https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf, accessed October 24, 2019.

³⁷ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019.

³⁸ Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

³⁹ California Air Resources Board 2017 Scoping Plan-Identified VMT Reductions And Relationship To State Climate Goals, January 2019 https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf

what level of statewide VMT reduction, in the judgment of CARB staff, would promote achievement of statewide GHG emission reduction targets. CARB asserts that the currently adopted SCSs throughout the state “would achieve in aggregate, a nearly 18 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions relative to 2005 by 2035, if those SCSs were successfully implemented.” However, in order to meet the state goals, the full reduction needed is a 25 percent reduction in statewide per capita on-road light-duty transportation-related GHG emissions, however, CARB has “determined that those targets would be infeasible for MPOs to achieve with currently available resources.”

The CARB Report is based on modeling that incorporates cleaner technologies and fuels (CTF) assumptions consistent with the 2017 Scoping Plan Update and the 2016 Mobile Source Strategy (as discussed below and in **Section 3.8, Greenhouse Gases**) and provides an “alternate assessment tool for jurisdictions that choose to use them to complete analyses directed by the *CEQA Guidelines*.” The CARB Report finds that:

Certain land use development projects located in areas that would produce rates of total VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 State climate goals. (Emphasis in original).⁴⁰

However, CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) also provides non-binding recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures. OPR cites to the CARB Report to reiterate that “at present, consistency with RTP/SCSs does not necessarily lead to a less-than-significant VMT impact.”⁴¹ OPR finds:

Based on OPR’s extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the State’s long-term climate goals, OPR recommends that a per capita [residential] or per employee

⁴⁰ CARB Report at p. 11.

⁴¹ OPR Technical Advisory at p. 11.

[office] VMT that is fifteen percent below that of existing [2017] development may be a reasonable threshold.⁴²

OPR further recommends a net increase in total retail VMT compared to existing (2017) may indicate a significant transportation impact.⁴³

OPR goes on to indicate that:

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.⁴⁴

Since the SCAG Regional Travel Demand Model generates VMT from all uses within the region, the estimated VMT cannot be compared to OPRs targets because it is not possible to separate out the land uses.

For roadway capacity projects, OPR also recommends developing a project-level threshold based on VMT levels required to achieve legally mandated GHG emission reduction targets as set forth in the CARB Scoping Plan and 2016 Mobile Source Strategy by applying the following approach:

1. Propose a fair-share allocation of those budgets to their jurisdiction (e.g., by population);
2. Determine the amount of VMT growth likely to result from background population growth, and subtract that from their "budget";
3. Allocate their jurisdiction's share between their various VMT-increasing transportation projects, using whatever criteria the lead agency prefers.⁴⁵

OPR also provides guidance on how to estimate VMT impacts from roadway expansion projects and suggests the following general mitigation and alternatives:

- Tolling new lanes to encourage carpools and fund transit improvements
- Converting existing general purpose lanes to HOV or HOT lanes

⁴² *Id.* at p.10.

⁴³ *Id.* at p. 16

⁴⁴ *Id.* at p. 17

⁴⁵ *Id.* at p. 22-23.

- Implementing or funding off-site travel demand management
- Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes⁴⁶

Additional project-level mitigation measures including in lieu mitigation fees to reduce VMTs are also provided.

CEQA Streamlining for Infill Projects Senate Bill (SB) 226

The CEQA Streamlining for Infill Projects (SB 226) sets forth a streamlined review process for infill projects and includes performance standards that will be used to determine an infill project's eligibility for streamlined review. The purpose of SB 226 and updated *CEQA Guidelines* Section 15183.3 is to streamline the environmental review process by "limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies." Residential, commercial and retail, public office buildings, transit stations, and schools are eligible for this streamlining provided they meet the following requirements: (1) are located in an urban area on a site that has been previously developed or adjoins existing qualified urban uses on at least 75 percent of the site's perimeter; (2) satisfy the performance standards provided in Appendix M [of CEQA]; and, (3) are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, with some exceptions.⁴⁷

Under SB 226, some development and transportation projects assumed as a part of the proposed Plan may be eligible to use a streamlined version of the environmental review process.

California Transportation Plan (CTP)

The CTP (SB 64; Chapter 711 Section 14536 amended 65073.1) is prepared by the California Department of Transportation every 5 years to provide a long-range policy framework to meet our future mobility needs and reduce greenhouse gas emissions. The CTP defines goals, performance-based policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system by envisioning a sustainable system that improves mobility and enhances our quality of life. The CTP is developed in collaboration with transportation stakeholders such as SCAG. Through ongoing engagement, the CTP is intended to provide goals and visions to support a fully integrated, multimodal,

⁴⁶ *Id.* at p.25.

⁴⁷ California Natural Resources Agency. *Streamlined Review for Infill Projects (SB 226)*. Available online at: <http://resources.ca.gov/ceqa/guidelines-sb226/>, accessed August 29, 2019.

sustainable transportation system that supports the quality of life: prosperous economy, human and environmental health, and social equity. The CTP fulfills the state's goal to meet the Federal Transportation Improvement Program.⁴⁸

Senate Bill 391

Senate Bill 391 was signed into law in October 2009 by Governor Schwarzenegger and requires the CTP to support 80 percent reduction in GHGs below 1990 levels by 2050. The bill also requires Caltrans to update the CTP every five years and provide an assessment of how the implementation of sustainable communities strategies will influence the configuration of the statewide multimodal transportation system. The bill requires Caltrans to consult with and coordinate its planning activities with specified entities and to provide an opportunity for public input.

Assembly Bill 1358

AB 1358, also known as the Complete Streets Act of 2008, amended the California Government Code Section 65302 to require that any substantive revisions to a city or county's Circulation Element include provisions for accommodations of all roadway users, including bicyclists and pedestrians.⁴⁹

2016 Mobile Source Strategy

On May 16, 2016, the Air Resources Board (ARB or Board) released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve greenhouse gas emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy aims to deliver environmental and public health benefits as well as updates to transportation infrastructure, enhancements of systemwide efficiency, and clean growth in the mobile sector. The estimated benefits of the strategy in reducing emissions from mobile sources includes an 80 percent reduction of smog-forming emissions and a 45 percent reduction in diesel particulate matter from today's levels in the South Coast. CARB estimates statewide, the Mobile Source Strategy would also result in a 45 percent reduction in greenhouse gas emissions, and a 50 percent reduction in the consumption of petroleum-based fuels.

California Congestion Management Program

The Congestion Management Program (CMP) is the State mandated program (Government Code 65089) aimed at reducing congestion on highways and roads in California. The CMP establishes a designated

⁴⁸ California Legislative Information. *Senate Bill No. 64*.

⁴⁹ *Assembly Bill No. 1358*.

roadway network of regional significance, roadway service standards, multi-modal performance standards and a land use analysis element to identify and mitigate multijurisdictional transportation impacts resulting from local land use decisions. Federal, State and local transportation funding is contingent upon local agency compliance with the CMP.⁵⁰

California Vehicle Code (CVC)

The CVC provides requirements for ensuring emergency vehicle access regardless of traffic conditions. CVC sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.⁵¹

Executive Order (EO) B-16-2012 on Zero Emission Vehicles

EO B-16-2-12 was signed by Governor Brown on March 23, 2012, to encourage development of the zero emission vehicles (ZEVs) to protect the environment, stimulate the economy, and improve the quality of life in the region. The goals that are promulgated include setting aggressive targets to meet goals in 2015, 2020, and 2025, supporting the rapid commercialization of clean vehicles, and pursuing policies to promote private sector investment and made-in California technologies. Executive Order B-16-2012 also sets a target for 2050 of a reduction of greenhouse gas emissions from the transportation sector equaling 80 percent less than 1990 levels.⁵²

In February 2013, an interagency working group developed the ZEV Action Plan which identifies specific strategies and actions that state agencies will take to meet the milestones of the Executive Order. The ZEV Action Plan states:⁵³

ZEVs are crucial to achieving the state's 2050 greenhouse gas goal of 80 percent emission reductions below 1990 levels, as well as meeting federal air quality standards. Achieving 1.5 million ZEVs by 2025 is essential to advance the market and put the state on a path to meet these requirements.

The ZEV Action Plan was updated in 2016, and highlights the following priorities for ZEVs:

- Raising consumer awareness and education about ZEVs;

⁵⁰ California Legislative Information. *Chapter 2.6. Congestion Management [65088-65089.10]*.

⁵¹ California Legislative Information. *Chapter 4. Right-of-Way [21800-21809], Section 21806.*

⁵² Office of Governor Edmund G. Brown Jr., *Executive Order B-16-2012*. Available online at: <https://www.ca.gov/archive/gov39/2012/03/23/news17472/index.html>, accessed August 29, 2019.

⁵³ Government Office of Planning and Research (OPR). *2013 ZEV Action Plan: A Roadmap toward 1.5 million zero-emissions vehicles on California roadways by 2025*. Available online at: [http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_\(02-13\).pdf](http://opr.ca.gov/docs/Governors_Office_ZEV_Action_Plan_(02-13).pdf), accessed August 29, 2019.

- Ensuring ZEVs are accessible to a broad range of Californians;
- Making ZEV technologies commercially viable in targeted applications the medium-duty, heavy-duty and freight sectors; and
- Aiding ZEV market growth beyond California.

The 2016 ZEV Action Plan introduces new actions to meet these priorities and build California's ZEV market, remove barriers to future market growth and ensure this transition benefits the state and its residents. The intent is to clearly communicate what state government will do to advance ZEVs and serve as a "to-do" list for the Governor's Office and state agencies to enhance interagency coordination.⁵⁴

EO B-32-15 Integrated Action Plan to Improve California's Freight System

On July 16, 2015, Governor Brown issued EO B-32-15, which orders the Secretary of the California State Transportation Agency, the Secretary of the California Environmental Protection Agency, and the Secretary of the Natural Resources Agency to lead other relevant state departments including the California Air Resources Board, the California Department of Transportation, the California Energy Commission, and the Governor's Office of Business and Economic Development to develop an integrated action plan by July 2016 that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system. The action plan shall identify state policies, programs, and investments to achieve these targets, and be informed by existing state agency strategies, including the California Freight Mobility Plan, Sustainable Freight Pathways to Zero and Near-Zero Emissions, Integrated Energy Policy Report, as well as broad stakeholder input. The California Sustainable Freight Action Plan was adopted in July 2016.⁵⁵

Caltrans Strategic Management Plan, 2015 - 2020

The most recent Caltrans Strategic Management Plan⁵⁶ redefines the Caltrans mission statement and provides a vision statement. The Caltrans mission statement is: *Provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.* The Caltrans vision is: *A performance-driven, transparent, and accountable organization that values its people, resources, and partners and meets new challenges through leadership, innovation, and teamwork.* The document identifies five goals: 1)

⁵⁴ California Fuel Cell Partnership. *2016 ZEV Action Plan from the State of California*. Available online at: <https://cafcp.org/blog/2016-zev-action-plan-state-california>, accessed August 29, 2019.

⁵⁵ Office of Governor, Edmund G. Brown Jr. 2015. *Executive Order B-32-15*. Available online at: <https://www.ca.gov/archive/gov39/2015/07/17/news19046/index.html>, accessed August 29, 2019.

⁵⁶ Caltrans. *Strategic Management Plan 2015-2020*. Available online at: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>, accessed November 15, 2019.

Safety and Health, 2) Stewardship and Efficiency, 3) Sustainability, Livability and Economy, 4) System Performance, and 5) Organizational Excellence. The document identifies numerous performance measures and targets including the following target with respect to Sustainability, Livability and Economy: to increase non-auto modes (triple bicycles, double pedestrian and double transit (2010 – 12 California Household Travel survey is the baseline), achieve a 15 percent reduction in per capita VMT (3 percent per year) reported by each District relative to 2010 by 2020, 85 percent reduction in diesel particulate matter (relative to 2000), 80 percent reduction in NO_x in the South Coast Air Basin by 2023 (from 2010).⁵⁷

*Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743*⁵⁸

Caltrans developed this guidance for Caltrans use in providing comments to local jurisdictions through the Intergovernmental Review process. This guidance document supports the implementation of the Strategic Management Plan including achieving the identified targets.

3.17.2.3 Regional

California Transportation Commission Active Transportation Program Guidelines

Under Senate Bill (SB) 99 (Chapter 359, Statutes 2013) and AB 101 (Chapter 354, Statutes of 2013), the CTC is authorized to prepare guidelines to assist in the preparation of Active Transportation Plans (ATPs). An ATP includes bicycle, pedestrian, safe-routes to-school, and other comprehensive criteria to be included in the circulation element of its general plan in compliance with Complete Streets Act. The CTC's RTP guidelines suggest that all projects within the SCAG region must be selected through a competitive process that meets the federal aid goals. These goals are included in the environmental, design, right-of-way, and construction phases of the infrastructure and non-infrastructure projects. All projects that are selected in the ATP are required to include a discussion of the estimated bicycle and pedestrian trips, facilities report, proposed land use and bicycle transportation facilities, and policies related to parking and ADA compliance.⁵⁹

⁵⁷ This document does not provide a detailed comparison to these targets because year 2000 and year 2010 comparable data is not available, and Caltrans VMT data for districts in the SCAG region is not available.

⁵⁸ Caltrans. 2016. Local Development – Intergovernmental Review Program Interim Guidance, Implementing Caltrans Strategic Management Plan 2015 – 2020 Consistent with SB 743

⁵⁹ California Transportation Commission. *Active Transportation Program (ATP)*. Available online at: <https://catc.ca.gov/programs/active-transportation-program>, accessed August 29, 2019.

Transit Development Plans

A Transportation Development Plan (TDP) updates a municipal or county operated transit system's goals and objectives, develops service alternatives, provides funding estimates, and produces a plan to implement recommended service improvements for a five-year period. A number of agencies within the SCAG have TDPs.

Plans and Policies Related to Complete Street Act of 2008 (AB 1358; S. 2686)

The Complete Streets Act of 2008 (AB 1358) required cities and counties to incorporate Complete Streets in their general plan updates to ensure that transportation plans meet the needs of all users, including pedestrians, bicyclists, and transit users as well as children, older individuals, and individuals with disabilities, to travel safely and conveniently on streets and highways. In the SCAG region, all six of the counties have developed their own bicycle and pedestrian plans. Majority of these bicycle pathways are part of existing Class II path which provides on-street bike lanes, although a few are in Class I category, which mean that the path is separate from automobile traffic, and some are categorized as Class III pathways with on-street bike lanes further designated by signs.⁶⁰

3.17.2.4 Local

County General Plans Circulation Element

Each of the six counties within the SCAG region has prepared a Transportation or Circulation Element, as a required component of the General Plan. The Transportation or Circulation Element provides a summary of the existing conditions in the planning area, major issues, goals, and policies, as well as pertinent action programs related to traffic and circulation related to a variety of transportation systems (highway and local road networks, bus, rail, high speed rail, aviation network, harbors, bicycles, pedestrians, and rideshare). The Transportation or Circulation Element describes the major locations and corridors for existing and future travel based on land use patterns in order to develop a comprehensive, coordinated, and continuing transportation system for the region. Relevant policies include encouraging provision of transit service at a reasonable cost to the users and the community, encouraging the efficient use and conservation of energy and ease congestion, and, where the land use would support, providing for development of a mass transportation system that will provide a viable alternative to the automobile, and support a balance in transportation modes with public transit system that provides accessible service, particularly to the transit dependent. A transportation system will operate at regional, countywide,

⁶⁰ California Legislative Information. *Assembly Bill No. 1358*.

community, and neighborhood scales to provide connectivity between communities and mobility between jobs, residences, and recreational opportunities.

County General Plans Safety Element

Each of the six counties in the SCAG region prepared a Safety Element as a required component of the General Plan. The Safety Element generally discusses measures to abate the impacts in case of catastrophe for maintenance of the transportation infrastructure. The Traffic and Transportation Division under each county is responsible for developing plans and guidelines for the maintenance of traffic control devices, emergency travel routes in the event of an emergency, placement of barricades, and control of traffic and coordination with other departments to promote integrated disaster planning, response and mitigation efforts. Included in the Safety Element discussion are strategies for continuation of adequate critical infrastructure systems and services to assure adequate circulation, communications, and transportation services for emergency response in the event of disaster related systems disruptions.

Orange County Bikeways Strategic Plan

The 2009 Orange County Commuter Bikeways Strategic Plan was developed “to encourage the enhancement of Orange County’s regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option.”⁶¹ The plan identifies approximately 116 miles of priority bikeway projects. In 2012, the Orange County Transportation Authority provides an addendum to the existing Plan with a Commuter Bikeways Strategic Plan (CBSP) that refines the regional bikeway networks and specified which bikeways are connected to priority locations including major transit investment areas, employment centers, stations, colleges, and universities.⁶²

Riverside County Active Transportation Plans

The Western Riverside Council of Governments (WRCOG) and the Coachella Valley Association of Governments (CVAG) have developed Active Transportation Plans for their respective jurisdictions covering most of Riverside County. The Western Riverside County Active Transportation Plan builds on the Western Riverside County Non-Motorized Transportation Plan (NMTP), published in June 2010, by “updating active transportation network improvement projects, implementation strategies, and funding

⁶¹ Orange County Transportation Authority. *2009 OCTA Commuter Bikeways Strategic Plan*. Available at: <http://www.octa.net/pdf/bikeways09.pdf>, accessed December 18, 2018.

⁶² Orange County Transportation Authority. *Addendum 2009 OCTA Commuter Bikeways Strategic Plan*. Available at: <http://www.octa.net/pdf/2009CommuterBikewaysStrategicPlanAddendum.pdf>, accessed December 18, 2018.

opportunities found in that plan.”⁶³ The CVAG Active Transportation Plan recognizes the “value of providing opportunities for local residents and visitors to bicycle for transportation and recreation and to have attractive opportunities to walk to transit stops, as well as to encourage people to use neighborhood electric vehicles (NEVs).”⁶⁴

San Bernardino County Non-Motorized Transportation Plan

The Revised 2018 San Bernardino County Non-Motorized Transportation Plan’s goals include: (1) Increased bicycle and pedestrian access; (2) Increased travel by cycling and walking; (3) Routine accommodation in transportation and land use planning; and (4) Improved bicycle and pedestrian safety.⁶⁵

Ventura County Bicycle Master Plan

The 2007 Ventura County Bicycle Master Plan “provides a broad vision, strategies and actions for the improvement of bicycling” by maximizing funding sources for implementation; improving safety and encouraging cycling; expanding the network and support facilities; and enhancing the quality of life in and overall environmental benefits. Within the County of Ventura, many jurisdictions and municipalities also has a bicycle plan to encourage non-motorized commutes.

Active Transportation Plans/Mobility Plans

In addition to county plans, many local jurisdictions have developed their own active transportation plans or include active transportation components in the Circulation Element of their General Plan. Many street enhancement projects or capital improvement projects include active transportation elements as well. For example, many street improvement projects may include the striping of bikeways or new developments may include sidewalk enhancements.

⁶³ Western Riverside Council of Governments. *Western Riverside Active Transportation Plan*. Available at: <http://www.wrcog.us/DocumentCenter/View/3366/Final-WRCOG-ATP>, accessed December 18, 2018.

⁶⁴ Coachella Valley Association of Governments. *Active Transportation Plan*. Available at: https://www.cvag.org/library/pdf_files/trans/Transportation_Documents/CVAG%20ATP%202016-06-20%20rev2017-06-07.pdf, accessed December 18, 2018.

⁶⁵ San Bernardino County Transportation Authority. *San Bernardino County Non-Motorized Transportation Plan March 2011 (Revised June 2018)*. Available at: <http://www.gosbcta.com/sbcta/plans-projects/plans/non-motorized-transportation/NMTP-RevJune2018.pdf>, accessed December 18, 2018.

Imperial County Bicycle Master Plan

In 2011, Imperial County updated a Bicycle Master Plan,⁶⁶ which was originally created in 2003. The guiding vision of the plan is to “encourage and promote bicycling as a safe and convenient form of transportation and recreation.” The Plan will implement 253.5 miles of bikeways with intent to replace vehicular trips with bicycle trips. Providing transportation options to reduce Vehicle Miles Traveled is an important feature of this plan that is supportive of SCAG’s overall goals and visions for limiting source pollution control such as carbon dioxide, nitrogen oxides, and hydrocarbon releases and an important component of decreasing greenhouse gas emissions and improving air quality.

Los Angeles County Bicycle Master Plan

Metro developed a Bicycle Transportation Strategic Plan (BTSP) in 2006⁶⁷ to be used by “the cities, the County of Los Angeles and transit agencies in planning bicycle facilities around transit and setting priorities that contribute to regional improvements. The goal is to integrate bicycle use in transportation projects.” In addition, Metro also created a Bicycle Transportation Account Compliance Document (BTA Document) to provide an “inventory and mapping of existing and proposed facilities, and an estimate of past and future expenditures for bicycle facilities.” In 2013, SCAG and Metro developed the Bike County Data Clearinghouse to assist LA County conduct bicycle counts. The Los Angeles County Department of Public Works adopted a Countywide Bicycle Master Plan in 2012, which was developed with the overarching goal of increasing “bicycling throughout the County of Los Angeles through the development and implementation of bicycle-friendly policies, programs, and infrastructure.” The plan recommends the development of an interconnected network of bicycle corridors, with approximately 695 miles of bikeway facilities. This plan looks at the ridership and air quality benefits from cycling and also includes a list of existing and proposed bikeways in LA County.⁶⁸

⁶⁶ Imperial County. *Imperial County Bicycle Master Plan Update: Final Draft*. Prepared by Alta Plannin+Design. Available at: https://www.altaprojects.net/files/6413/2579/4308/Imperial_County_BMP_Final_Draft.pdf, accessed December 18, 2018.

⁶⁷ Los Angeles County Metropolitan Transportation Authority. *Metro Bicycle Transportation Strategic Plan*. Available at: http://media.metro.net/board/Items/2006/02_february/20060215P&PItem6%20Atta.pdf, accessed December 18, 2018.

⁶⁸ Los Angeles County Department of Public Works. *Bicycle Master Plan*. Available at: <http://dpw.lacounty.gov/pdd/bike/masterplan.cfm>, accessed December 18, 2018.

3.17.3 ENVIRONMENTAL IMPACTS

3.17.3.1 Thresholds of Significance

The impacts related to transportation, traffic and safety resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the *State CEQA Guidelines*:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with *CEQA Guidelines* section 15064.3(b).
- Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

In addition, the following criterion from **Section 3.20, Wildfire**, is addressed along with emergency access:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.

As discussed above, CARB and OPR have recommended VMT thresholds of significance in their guidance documents, however these thresholds are meant to apply at the project-level. CARB notes that the modeling used for the CTF forecast identifies ratios of total statewide VMT to population and that the suggested per capita reductions are not household generated VMT and that values are not directly comparable to output from a local or regional travel demand model. OPR notes that with respect to their recommended thresholds “combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.” Since SCAGs model generates trips from a variety of land uses and trips from each land use cannot be separated, comparison of SCAG VMT data to OPR thresholds is not recommended.

The objective of these thresholds is to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO’s are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for the particular project, or apply alternative thresholds, consistent with *CEQA Guidelines* Section 15064.3 which states “A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to

express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence." See also **Section 3.8, Greenhouse Gases**, for additional discussion on the connection between GHG and VMT and SCAG's ability to meet SB 375 and consistency with SB 743 guidance and suggested targets as well as statewide climate goals.

3.17.3.2 Methodology

Transportation-related impacts were evaluated in accordance with Appendix G of the 2019 *CEQA Guidelines*. Transportation-related impacts within the SCAG region were evaluated at a programmatic level of detail, in relation to the General Plans of the six counties and the 191 cities within the SCAG region review of general information characterizing transportation and review of published and unpublished literature germane to the SCAG region.

The methodology for determining the significance of impacts on transportation, traffic, and safety impacts compares current regional transportation conditions to expected future 2045 conditions with the Plan, as required by *State CEQA Guidelines*. SCAG utilized the Regional Travel Demand Model (RTDM) to compare the existing conditions to the Plan's 2045 condition. SCAG's role as the MPO for the region and as the preparer of the regional transportation plan is to evaluate the regional network. The most appropriate metric for such regional analysis is VMT which measures overall network efficiency, rather than LOS which is generally used to evaluate local (i.e., intersection level) impacts. Total daily VMT is used as a measure of overall utilization of roadways which relates to vehicle emissions, traffic congestion, and the effectiveness of land use patterns and alternate mode options in reducing the need for vehicular travel. Vehicle hours of delay (VHD) measures the congestion level of the roadway. Other measures such as transportation system accident rates measure the effect of other modal choices from vehicles to active transportation. Performance measures for the Plan's horizon year 2045 were compared to the existing regional conditions for each significance criterion to determine the significance of impacts. The 2045 transportation model output provides a regional and cumulative level of analysis for the impacts of the Plan on transportation, traffic, and safety.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Section 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However,

SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.17.3.3 Impacts and Mitigation Measures

Impact TRA-1 **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.**

Less than Significant Impact.

The region provides a large and growing amount of transit service. In 2017, the region supplied 22.5 million hours of service, or roughly 1.18 hours for every resident. However, transit ridership has declined significantly over the last 10 years, even as service levels have grown. Between 2006 and 2017, total passenger trips declined by 125 million, or 17 percent. This works out to a decline of almost 10 trips per person, or just under 23 percent. This trend impacts agencies' ability to continue to provide these levels of service, as declining fare revenues will eventually lead to budgetary challenges.

The Plan calls for a substantial expansion of transit facilities and service over the next 25 years. While these capital projects would provide the SCAG region with a much more mature public transportation system, operational improvements and new transit programs and policies would also contribute to attracting more trips to transit and away from single-occupant vehicle travel. Expanding HOV and express lane networks calls for the development of an extensive express bus point-to-point network. In addition, transit oriented and land use strategies call for increasing the frequency and quality of fixed-route bus service by virtue of adding new bus rapid transit service, limited-stop service, increased frequencies along targeted corridors, and the introduction of local community circulators to provide residents of smart growth developments with the option of taking transit over using a car to make short, local trips.

Many of Metro's Measure R projects have made significant construction progress since the adoption of the 2016 RTP/SCS, including the Crenshaw/LAX Transit Corridor, the Regional Connector and the Purple Line Extension Phase 1. Additionally, work concluded on the Exposition Transit Corridor Phase 2 to Santa Monica and the Metro Gold Line Foothill Extension Phase 2A. Both of those projects entered revenue service in 2016.⁶⁹

On the November 2016 ballot, Los Angeles County voters approved Measure M, a fourth Local Option Sales Tax to fund both capital and operations within Los Angeles County. The tax was part of a forty-one-

⁶⁹ Metro, *Measure R*. Available online at: <https://www.metro.net/projects/measurer/>, accessed November 1, 2019.

year, \$120 billion plan to expand upon Measure R, adding new transit projects and expediting others previously approved under Measure R. The plan, known as Measure M, would be paid for by an additional permanent half-cent sales tax increase. Measure M passed with 70.15 percent of the vote, clearing the two-thirds majority required. The combined expenditure plan provides \$432.29 billion for transit operations, \$41.86 billion for capital construction of corridor improvements and facilities and \$2.39 billion for capital replacement to achieve a state of good repair. Additionally, the expenditure plan programs \$19.13 billion in local return funds, which are often used to fund transit operations.⁷⁰ **Table 3.17-11, Major Transit Capital Projects**, provides a summary of major transit projects included in the Plan. A map of the 2045 Transit Network is provided in **Figure 2.0-14, 2045 Plan Transit Network**, in **Chapter 2.0, Project Description**.

Table 3.17-11
Major Transit Capital Projects

County	Project	Connect SoCal Completion Year
Los Angeles	Crenshaw/LAX Transit Corridor	2020
Los Angeles	Metro Eastside Transit Corridor – Phase 2	2035
Los Angeles	Metro Gold Line Foothill Extension to Claremont	2025
Los Angeles	Airport Metro Connector	2024
Los Angeles	South Bay Metro Green Line Extension	2030
Los Angeles	Regional Connector	2021
Los Angeles	San Fernando Valley (East) North/South Rapidways	2027
Los Angeles	West Santa Ana Branch Corridor	2028
Los Angeles	Metro Purple Line Westside Subway Extension Section 1	2023
Los Angeles	Metro Purple Line Westside Subway Extension to Century City	2026
Los Angeles	Metro Purple Line Westside Subway Extension to Westwood	2027
Los Angeles	Sepulveda Pass Transit Corridor	2033
Los Angeles	Vermont Transit Corridor	2028
Los Angeles	Vermont Short Corridor: Wilshire/Vermont to Exposition/Vermont	2045
Orange	Santa Ana/Garden Grove Fixed Guideway	2021
Riverside	Rapid Commuter Corridor From Parris to San Jacinto	2045
San Bernardino	Redlands Rail – Phase 1	2021
San Bernardino	Redlands Rail – Phase 2	2045
San Bernardino	West Valley Connector	2024

⁷⁰ Metro, *Measure M Ordinance*. Available online at: https://theplan.metro.net/wp-content/uploads/2016/09/measurem_ordinance_16-01.pdf, accessed November 1, 2019

In Los Angeles County, three key efforts are likely to substantially impact the implementation of Connect SoCal. The first of these is Metro's NextGen Bus Study.⁷¹ This study seeks to design a new bus network that is more relevant, reflective of and attractive to the residents of Los Angeles County. Specific objectives of the study include:

- Understand transit market demand in LA County
- Study the agency's current bus system and how well it serves current and potential customers
- Recommend how best to reimagine the system to be more relevant to what people need today

If implemented, this study may result in major changes to Metro's bus service. All aspects of Metro bus service are on the table for study, including speed, distance, frequency, time of day, reliability as well as quality of service, and safety. The study may also result in major changes to the Metro bus network's routes. Metro has compiled and processed data to help prepare the Regional Service Concept, which is guiding the development of the Draft NextGen Bus Service Plan, expected to be released in early 2020.

The second effort is the Twenty-Eight by '28 Initiative which highlights 28 Metro projects for potential completion by the 2028 Summer Olympic and Paralympic Games to be held in Los Angeles and surrounding areas. The Metro Board approved a list of projects, which includes projects already slated for completion by 2028, as well as projects with later delivery dates with potential for acceleration. Project acceleration would be considered on a case-by-case basis according to the adopted Early Project Delivery strategy. Not all Measure M investments scheduled for completion by 2028 are included in the Twenty-Eight by '28 list, and the list does not replace commitments made in the Measure M Ordinance. Metro reports quarterly on project delivery and funding status of the Twenty-Eight by '28 list.

The third planning effort is the City of Los Angeles's Mobility Plan 2035: An Element of the General Plan.⁷² This document provides the policy foundation for achieving a transportation system that balances the needs of all road users. As an update to the City's General Plan Transportation Element (last adopted in 1999), Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of residents interact with their streets. This plan includes the Transit-Enhanced Network (TEN), a series of transit and active transportation investments on key corridors throughout the City of Los Angeles, including peak hour bus lanes, all day bus lanes and mixed flow lanes with

⁷¹ Metro, *NextGen Bus Study*. Available online at: <https://www.metro.net/projects/nextgen/>, accessed November 1, 2019.

⁷² Los Angeles Department of City Planning, *Mobility Plan 2035: An Element of the General Plan*, 2016. Available online at: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf

improved bus service. **Table 3.17-12** shows that daily transit boarding in the region would increase over the lifetime of the Plan.

Table 3.17-12
Daily Transit Boardings

Daily Transit Boarding	Existing (2019)	2045 No Plan	2045 Plan
Commuter Rail	53,820	66,245	174,947
Local Bus	1,731,171	2,145,804	2,922,138
Local Rail / Bus Rapid Transit	452,444	701,487	1,604,222
Express Bus	24,600	26,710	30,981
HSR	-	-	32,157
Rapid Bus	130,713	145,162	346,992
Transitway	30,791	31,478	33,090
Total (Transit)	2,423,540	3,116,887	5,144,528

Source: SCAG, 2019

Connect SoCal proposes a variety of active transportation investments to improve conditions for people who walk, bike, and use micro-mobility (See **Chapter 2.0, Project Description**). Current rates of funding and the speed of implementation will need to be accelerated to complete the proposed projects within the Plan. This will require additional community engagement to build support for changes to roadway networks such as active mobility lanes and other safety improvements. SCAG has identified a number of implementation actions that an agency can pursue toward active transportation goals. These actions will serve as broad direction for the agency to support equity, short and regional trips, safety, and complete streets. Overall, cost estimates to implement active transportation goals of the Plan would total \$22.5 billion.

The Plan calls for a substantial expansion of transit facilities and service to attract trips to transit and away from single-occupancy vehicle travel. Transit-oriented land use strategies would increase the frequency and quality of fixed-route bus service by adding new rapid service, express service, and community circulators for short trips.

The proposed Active Transportation plan would increase the mode share of transit and active transportation in the SCAG region, from 10.6 percent in 2019 to 12.9 percent in 2045 (**Table 3.17-13**).

Table 3.17-13
Percentage of Mode Share on Transit and Active Transportation

Mode Share	2019	2045 No Project	2045 Plan
Walk	7.0	6.7	7.1
Bike	1.3	1.4	1.7
Transit	2.3	2.6	4.1
Total	10.6	10.7	12.9

Source: SCAG modeling, 2019.

In 2016 SCAG completed an Active Transportation Health and Economic Impact Study, which showed that the investments in the 2016 RTP/SCS would result in an additional \$113 billion in economic outcome for the region over the life of the plan, 70 percent of which would be from reduced health care costs and improved worker productivity. SCAG conducted a similar analysis as part of Connect SoCal and found that the Plan, including active transportation and nonactive transportation investments, would provide \$352 million in health care savings. Additional information on the physical activity rates and benefits of Connect SoCal is outlined in the Public Health Technical Report. Each RTP/SCS cycle, SCAG has expanded and improved its analysis of active transportation planning processes to better integrate people walking and bicycling into the regional transportation network.

Since 2016, county transportation commissions and councils of governments within SCAG's region have also completed notable active transportation planning initiatives including countywide pedestrian plans, multi-jurisdictional bicycle master plans, comprehensive Safe Routes to School plans, active transportation plans, and first-last mile policies and plans. Through grant sources such as the Active Transportation Program, SCAG's Sustainable Communities Program and Caltrans Sustainability Planning Grants, 68% of cities within SCAG's region have adopted bicycle master plans. The number of cities with Safe Routes to School and pedestrian master plans have doubled since 2016.

SCAG's analytic approach for its active transportation plans included a combination of outreach processes and data gathering efforts, including but not limited to SCAG's local input process with cities, county agencies, councils of governments, working groups, and technical advisory committees that review active transportation projects and programs, input collected through the scenario development process from agency partners, health departments, community based organizations and members of the public, input gathered through SCAG's Go Human events.

As described within the Environmental Setting, there are numerous plans and polices that address the circulation system. At the transit agency level, it is unlikely that conflicts would occur, as SCAG incorporates local transit plans into the RTP through regular amendments to the Plan. With regard to bicycle and pedestrian plans, as described above, SCAG has done extensive outreach and coordination across numerous groups to capture local input. Further, SCAG regularly assists local jurisdiction in planning for these types of projects through grant funding.

SCAG and the six Counties have worked towards the development of a metropolitan-wide strategy for new and existing transportation facilities eligible for funding under Title 23 U.S.C. and Title 49 U.S.C., to optimize the transportation system for safety and improve effectiveness. This strategy includes the development of a coherent and integrated regional goods movement system. Strategies include a Regional Freight Corridor System which would create a system of truck-only lanes for major freeway systems that are affected by haul trucks used for the goods movement; a Truck Bottleneck Relief Strategy which would mitigate top-priority truck bottlenecks; a Rail Strategy which would allow shippers the ability to move over long distances at lower costs, utilizing efficient rail strategies to include expansion and modernization of intermodal facilities; a Good Movement Environmental Strategy which would focus on a two-pronged approach for achieving an efficient, safe and economically sound freight system that reduces environmental impacts.

In order to meet federal certification requirements, SCAG and county CMAs, specifically LA County Metro, OCTA, RCTC, SANBAG, and VCTC are developing means to monitor and maintain the existing roadway infrastructure through demand reduction techniques, land-use and operation management strategies, and strategic capacity enhancement strategies. Additional strategies include supporting land use policies aimed to focus growth in HQTAs with enhanced opportunities for Southern California residents to access destinations without the use of an automobile.

SCAG has also worked with local Congestion Management Agencies (CMA) to support strategies for diversifying mode choices by encouraging public transit use and non-motorized forms of commute such as walking and other active transportation in the Plan. While the actual benefits of these alternative and active transportation modes are modest, SCAG transportation modeling indicates a potential to overall improvement in peak period work trips completed within 45 minutes by personal vehicle or by other transit with implementation of the Plan. In order to determine these findings, PM peak period work trips were used to assess impacts to work commute as PM trips are prone to the greatest amount of vehicle delay.

Lastly, the Plan includes land use strategies to focus development in HQTAs and High Quality Transit Corridors (HQTCs). Planned HQTCs are future improvements that are expected to be implemented by

transit agencies by 2045. These are assumed by definition to meet the statutory requirements of HQTC. The strategies of the SCS that focus development in these transit rich areas allow transit and land use to work together. CARB's 2016 Mobile Source Strategy recognizes that coordinated regional planning can improve California's land use patterns and transportation policy in a way that reduces transportation-related emissions by reducing growth in VMT. The SCS is one mechanism to pursue these reductions. The Plan includes policies to incentivize land use changes and promote communities that are designed to foster use of ZEVs and new modes of personal mobility consistent with the Mobile Source Strategy.⁷³

As such, the Plan would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.

Impact TRA-2 Conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

Significant and Unavoidable Impact – Mitigation Required.

CEQA Guidelines Section 15064.3(b) is intended to be applied at the project level; therefore, the myriad transportation and development projects that will occur under the Connect SoCal Plan will be required to address the specific requirements, as follows:

(b) Criteria for Analyzing Transportation Impacts.

(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled

⁷³ Air Resources Board, Mobile Source Strategy 2016, <https://ww3.arb.ca.gov/planning/sip/2016sip/2016mobsrsrc.pdf>

qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Connect SoCal is based on a regional employment and population forecast and accommodates this growth through the implementation of transportation projects and land use strategies. The Plan includes strategies to accommodate projected growth in a manner that increases transportation system efficiency and reduces VMT. Metrics such as VMT, VHT, and VHD have been used throughout the history of the Plan as a measure of the performance of the region's transportation system. SCAG has traditionally used VMT to assess transportation impacts as it is a more useful tool to evaluate impacts at the regional-scale than delay-based metrics for roadways such as LOS. In addition, the regional models used by SCAG do not include the LOS metric.

Traditionally project-level analysis of transportation impacts focused on local-level congestion and delay-based impacts (e.g., intersection and roadway LOS). The analysis of the Connect SoCal Plan is at the regional level and evaluates total regional VMT (including consideration of per capita data) and overall efficiency of the network.

CEQA Guidelines section 15064.3(b) provides that local jurisdictions have the ability to select the most appropriate methodology for their jurisdiction or project. As discussed above, methodologies and thresholds have been identified by OPR and CARB, as well as local jurisdictions. SCAG has discussed each of the thresholds in this PEIR and identified metrics at the regional scale (changes in total VMT and VMT per capita) over the Plan horizon.

CARB notes that their modeling assumes cleaner technology and fuels and identifies target ratios of total statewide VMT to population and that the suggested per capita reductions (i.e., 14.3 percent) are **not** household generated VMT and that values are **not** directly comparable to output from a local or regional travel demand model. Discussion of CARB's CTF modeling and suggested VMT thresholds under SB 743 is further discussed in **Section 3.8, Greenhouse Gases**.

OPR notes that with respect to their suggested thresholds (a reduction of 15 percent as compared to existing conditions [2017] for residential and office uses and a net increase for retail uses) combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Each jurisdiction may select the appropriate methodology and threshold for their jurisdiction and projects as long as the methodology is consistent with *CEQA Guidelines* Section 15064.3(b)(4). Jurisdictions may make use of regional SCAG data as appropriate and applicable in establishing thresholds.

As shown in **Table 3.17-14, Total VMT 2019 and 2045 By County**, total daily VMT in 2045 would increase when compared to current daily VMT, despite the reductions in per capita VMT. Total VMT is expected to grow from 461 million in 2019 to 518 million in 2045. This change constitutes a 12.3 percent increase and includes light, medium, and heavy-duty vehicle VMT in all six counties. The Plan is expected to reduce VMT per capita in Los Angeles, Orange and Ventura County and would increase VMT per capita in Imperial, Riverside, and San Bernardino County.⁷⁴

Studies have found that by adding roadway capacity in congested areas, network-wide VMT is increased by a nearly equivalent proportion within a few years, which results in reducing the initial congestion relief.⁷⁵ This increase in VMT is called “induced travel.” The long-term induced travel resulting from the Plan in 2035, which is calculated by analyzing roadway lane miles increase between 2016 and 2035 by 3 classes (interstate highway, other freeways and expressways, and other principal arterials), is 1.3 percent of total VMT in 2035.

Emerging technologies vary widely when it comes to their effect on VMT, and therefore GHG emissions. Some of these technologies, such as alternative fuel vehicles, micro-mobility, bikesharing and microtransit, have a mitigating influence on GHG emissions. Others, such as ride-hailing and automated vehicles, are expected to increase VMT and GHG emissions if their business models do not adapt.

⁷⁴ Connect SoCal Performance Results, 2019. Reductions are from a 2016 base year.

⁷⁵ National Center for Sustainable Transportation. Induced Travel Calculator. Accessed at <https://blinktag.com/induced-travel-calculator/about.html> on October 25, 2019.

Table 3.17-14
Total VMT 2019 and 2045 by County

County	In Thousands		
	2019	2045 No Project	2045 Plan
Imperial	7,000	11,000	11,000
Los Angeles	231,000	255,000	243,000
Orange	80,000	86,000	83,000
Riverside	61,000	80,000	78,000
San Bernardino	63,000	85,000	83,000
Ventura	19,000	21,000	20,000
SCAG Region	461,000	538,000	518,000

Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.

Table 3.17-15, Population and Daily VMT (2019 and 2045), presents information related to population, daily VMT and VMT per capita for the years 2019 and 2045.

Table 3.17-15
Population and VMT (2019 and 2045)

	2019	2045	2045 vs 2019
Total Population	19,339,700	22,507,200	14.1%
Total VMT	460,153,316	517,631,374	11.1%
VMT Per Capita Light Duty Vehicles	22.09	20.67	-6.4%
VMT Per Capita All Vehicles	23.79	22.89	-3.8%

Source: SCAG modeling, 2019.

By 2045 public transit boardings are projected to more than double in absolute numbers, and transit's mode share will also rise. The share of trips by bicycle and walking will rise and such active modes as well as transit will represent 12.9 percent of all trips. The share of trips by single-occupancy vehicles will fall from 69.62 percent to 65 percent of home-to-work trips for the region. The combined effect of these transportation mode shifts and the SCS land use pattern will result in a reduction in VMT per capita by 2045. Overall VMT per capita will decline by 3.8 percent for all vehicles and 6.4 percent for light, medium duty vehicles.

Table 3.17-16
VMT Per Capita by County

County	Total VMT per Capita			
	Light/Medium Duty Vehicles		All Vehicles	
	2019	2045	2019	2045
Imperial	28.43	31.24	33.57	39.70
Los Angeles	21.13	19.24	22.40	20.84
Orange	23.24	21.93	24.37	23.43
Riverside	22.01	20.56	24.61	23.83
San Bernardino	24.85	24.47	28.27	29.42
Ventura	21.02	19.47	22.15	21.05
Regional Average	22.09	20.67	23.79	23.00

Source: SCAG modeling, 2019.

As shown in **Table 3.17-16, VMT Per Capita by County**, Los Angeles County will experience the largest decline in per capita VMT in 2045, while Imperial County will experience the largest increase. In addition, as shown in **Table 3.17-17, Total Daily Vehicle Hours of Delay**, total delay in the region will decrease in Orange and Ventura Counties. Los Angeles, San Bernardino, Riverside and Imperial would all experience increases in delay.

Table 3.17-17
Total Daily Vehicle Hours of Delay

County	2019	2045 No Project	2045 Plan
Imperial	9,631	38,986	26,573
Los Angeles	1,686,548	2,097,088	1,742,303
Orange	431,378	553,724	381,522
Riverside	172,164	376,959	252,415
San Bernardino	152,870	326,859	221,484
Ventura	55,099	77,029	43,932
Regional	2,507,690	3,470,645	2,668,229

Source: SCAG modeling, 2019.

Table 3.17-18 shows percent of work trips completed within 45 minutes. As shown in this table, by 2045 there would be an increase of PM work trips by single-occupancy vehicles that take 45 minutes or less (from 79.78 percent to 82.62 percent). HOV PM trips within 45 minutes would increase from 83.27 percent to 84.39 percent and transit trips completed within 45 minutes would decline from 53.51 to 52.22 percent. Despite the decline for transit trips, this indicates that the Plan's strategies are improving overall congestion.

Table 3.17-18
Percent of PM Work Trips Completed within 45 Minutes

County	2019	2045 No Project	2045 Plan
Autos –Single Occupancy Vehicles			
Imperial	94.06%	92.42%	92.45%
Los Angeles	79.26%	79.70%	81.55%
Orange	84.30%	85.59%	86.79%
Riverside	74.69%	75.91%	79.41%
San Bernardino	76.81%	78.04%	81.17%
Ventura	82.41%	84.55%	85.91%
Region	79.78%	80.56%	82.62%
Autos – High Occupancy Vehicles			
Imperial	94.87%	92.99%	91.61%
Los Angeles	81.93%	81.34%	82.57%
Orange	88.14%	87.46%	89.59%
Riverside	79.00%	79.78%	81.04%
San Bernardino	81.68%	81.09%	83.28%
Ventura	85.93%	86.10%	88.16%
Region	83.27%	82.80%	84.39%
Transit			
Imperial	69.64%	55.74%	66.90%
Los Angeles	55.15%	53.33%	53.45%
Orange	53.41%	54.10%	53.73%
Riverside	30.49%	29.76%	30.79%
San Bernardino	42.51%	39.05%	44.44%
Ventura	46.21%	44.11%	45.24%
Region	53.51%	51.74%	52.22%

*Note: Numbers are rounded to nearest thousand.
Source: SCAG modeling, 2019.*

The VMT per-capita decline indicates that transportation projects, as well anticipated growth patterns under the Plan, if implemented, would effectively work together to improve system efficiency and minimize increases in VMT. This is because the Plan includes a more compact development pattern. Compact land uses are more efficiently served by transit, support potentially higher rates of walking and biking, and generate less vehicle travel. The Plan also places an emphasis on transit service and complete streets near transit, walk, and bicycle supportive land uses with higher density and a mix of uses most likely to generate a mix of travel modes. Road and highway projects concentrate on alleviating major bottlenecks and congestion points, while other programs and transportation systems management strategies, including technology and demand management programs, allow for greater optimization of existing transportation infrastructure. Other factors affecting future VMT are aging of the population and forecasted increases in auto operating costs.

As discussed above, the Plan is projected to increase total VMT in the SCAG region between 2019 to 2045 by approximately 12.36 percent, constituting a significant impact. Furthermore, the Plan is projected to increase total daily hours of delay from 2.50 million to 2.66 million hours between 2019 and 2045 (**Table 3.17-17, Total Daily Vehicle Hours of Delay**).

Connect SoCal commits more than \$37 billion for various highway improvements, including mixed-flow and interchange improvements, HOV/Express lanes, and transportation system management. For example, in Orange County, a \$1.9 billion project would add one mixed-flow lane in each direction, convert an HOV lane to HOT lane, and add an additional HOT lane on I-405. This project is scheduled for completion in 2026. In addition, numerous projects are scheduled for completion that would result in an Express Lane on I-405 from its northern terminus to the Los Angeles/Orange County border.

Policies that aim to charge drivers user fees to cover the costs of services they use can be effective in lowering emission and delays from increased VMTs. For example, Connect SoCal includes a local road charge program in the form of mileage-based user fees regionally, which can be adjusted by time-of-day at major activity centers. SCAG assumed congestion pricing during peak periods along with increases in parking pricing at major job centers in Los Angeles. The implementation of user-fees and pricing strategies can be structured to increase equity and mobility while reducing environmental impacts.⁷⁶

Potential development projects anticipated to occur under the Plan should consider the CEQA guidance regarding VMT. In general, as stated in *CEQA Guidelines* Section 15064.3(b)(1), projects located within HQTAs would likely have less than significant transportation impacts. For those projects located outside of HQTAs, transportation impacts would be determined based on the project's ability to reduce VMT.

⁷⁶ SCAG, Connect SoCal Technical Report, *Congestion Management*. November 2019.

For transportation projects under the Plan, those projects that reduce VMT, such as most transit and bike projects, the assumption is impacts will be less than significant. However, consistency with the RTP/SCS does not necessarily lead to a less than significant impacts. Further, OPR's technical guidance on SB 743 states "building new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel. For the types of projects previously indicated as likely to lead to additional vehicle travel, an estimate should be made of the change in vehicle travel resulting from the project."

Ultimately, the determination of VMT impacts will be made at the project level. As discussed above and elsewhere in this PEIR (see **Section 3.8, Greenhouse Gases**), lead agencies have the discretion to determine the appropriate methodology and level of analysis. As described, there are multiple potential VMT targets, CARB has identified 14.3 percent reductions in total VMT from 2015 to 2050 (based on specific modeling assumptions and ratios that are not directly comparable to data from regional travel demand models, see discussion in **Section 3.8 Greenhouse Gases**) and OPR has identified 15 percent lower per capita residential and office VMT and no net increase in residential VMT (OPR recommends that these reductions be calculated separately for each land use).

In CARB's January 2019 report,⁷⁷ CARB identifies a statewide population increase of 10 million people (an increase of 24 percent) between 2015 and 2050, growth in the SCAG region would account for nearly one third of that increase. If California were to meet its climate goals for 2050, CARB estimates (using specific CTF assumptions and population to VMT ratios that are not directly comparable to regional travel demand modeling) a 14.3 reduction in total VMT would be necessary.⁷⁸ See **Section 3.8 Greenhouse Gases**, for additional discussion of SB 743 and the CARB guidance.

OPR generally recommends a threshold of 15 percent below existing VMT per capita for residential and office with a no net increase for retail projects. OPR indicates that "land use projects, residential projects, office and retail projects tend to have the greatest influence on VMT." OPR suggests that lead agencies with more specific location information may develop their own more specific thresholds. OPR indicates

⁷⁷ California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

⁷⁸ According to CARB: "Total VMT per capita is calculated as a ratio of total statewide VMT to forecast population from the California Department of Finance. This is not household-generated VMT, and the values are not directly comparable to output from a local or regional travel demand model. This estimate is merely meant to show the extent of per capita VMT reduction needed relative to existing conditions in order to show consistency with the State's climate goals."

that combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.⁷⁹

At the regional level, CARB has set a regional target for SCAG of a 19 percent reduction in per capita on-road light duty transportation-related GHG emissions by 2035 relative to 2005. While SCAG meets this target, CARB has indicated that additional reductions are needed beyond targets set for the MPOs and has identified a “gap” between the regional target and the emissions/VMT reductions necessary to meet the state’s climate action goals. Currently adopted SCSs would achieve in the aggregate, a nearly 18 percent reduction in statewide per capita transportation-related GHG emissions in aggregate. However, in order to meet the statewide goals, the full reduction needed, according to CARB, is a 25 percent reduction by 2035.⁸⁰ Although the region is making progress in per capita VMT reductions, and is making significant strides in the development of new initiatives, projects, and programs in the Plan, and is not directly interfering with the statewide VMT reductions required to meet the state’s climate goals, the Plan does not clearly achieve the necessary level of VMT reductions now forecast by the state to meet AB 32 and SB 32 (as well as associated SB 743 guidance) GHG reduction goals. As discussed above and in **Section 3.8, Greenhouse Gases**, there is a “gap” between the current MPO emissions reductions targets and the emissions/VMT reductions necessary to meet the state’s climate action goals.

While CARB acknowledges that SCAG and other MPOs cannot meet this need without the collaboration and help of the state itself (i.e., through stricter regulation), as well as local partners, at the time of writing this PEIR it is unknown how CARB and other state agencies, through statewide programs or in coordination with local and regional governments, would meet the identified higher VMT reductions. It is expected that individual projects will need to review their projects in light of CARB and OPR guidance regarding VMT reduction targets to determine the appropriate levels of reductions. In some cases, it could be CARB’s suggested 14.3 target, or OPRs 15 percent (for residential and office uses) reduction. Neither the agencies, nor the courts have provided any clear guidance yet as to the appropriate methodology, and it is expected that there will not be a “one size fits all” approach. Each project will need to be evaluated in light of its particular components.

Despite the benefits shown by implementing the Plan, the transportation projects and growth under the Plan would substantially increase VMT, which would be inconsistent with *CEQA Guidelines* section 15064.3(b) and may not support achievement of the state’s VMT goals as identified in the 2017 Scoping Plan, constituting a significant impact requiring the consideration of mitigation measures.

⁷⁹ The SCAG region includes a wide variety of project types, and as such, a generic 15 percent reduction would not be expected to accurately reflect the specific details of the region.

⁸⁰ California Air Resources Board, *2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals*, 2019

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Planning Agencies, member cities, and state partners.

SMM TRA-2: SCAG shall identify further reduction in VMT, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

SMM TRA-3: SCAG shall initiate and facilitate an SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:

- Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs.
- Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative.
- Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements.
- Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program.

- Improve the dissemination of transportation project VMT mitigation options.
- Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies.
- Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state

SMM TRA-4: SCAG shall continue to analyze and develop potential implementation strategies for a regional, market-based system to price or charge for auto trips during peak hours.

SMM TRA-5: SCAG shall develop a vanpool program for SCAG employees' commute trips.

SMM TRA-6: SCAG shall encourage new developments to incorporate both local and regional transit measures into the project design that promote the use of alternative modes of transportation.

Project Level Mitigation Measures

PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Transportation demand management (TDM) strategies should be incorporated into individual land use and transportation projects and plans, as part of the planning process. Local agencies should incorporate strategies identified in the Federal Highway Administration's publication: *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (August 2012) into the planning process (FHWA 2012). For example, the following strategies may be included to encourage use of transit and non-motorized modes of transportation and reduce vehicle miles traveled on the region's roadways:
 - include TDM mitigation requirements for new developments;
 - incorporate supporting infrastructure for non-motorized modes, such as, bike lanes, secure bike parking, sidewalks, and crosswalks;

- provide incentives to use alternative modes and reduce driving, such as, universal transit passes, road and parking pricing;
- implement parking management programs, such as parking cash-out, priority parking for carpools and vanpools;
- develop TDM-specific performance measures to evaluate project-specific and system-wide performance;
- incorporate TDM performance measures in the decision-making process for identifying transportation investments;
- implement data collection programs for TDM to determine the effectiveness of certain strategies and to measure success over time; and
- set aside funding for TDM initiatives.

- The increase in per capita VMT on facilities experiencing LOS F represents a significant impact compared to existing conditions. To assess whether implementation of these specific mitigation strategies would result in measurable traffic congestion reductions, implementing actions may need to be further refined within the overall parameters of the proposed Plan and matched to local conditions in any subsequent project-level environmental analysis.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, the increase in total VMT and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to VMT to be significant and unavoidable.

Impact TRA-3 Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Less than Significant Impact.

SCAG adopted its 2020 Regional Safety targets in February 2019 and aims to reduce fatalities by 3 percent and serious injuries by 1.5 percent annually by 2050 to reach the goal of Towards Zero Death (TZD). Connect SoCal prioritizes ensuring the safety and mobility of the region's residents, including drivers and passengers, transit riders, pedestrians, and bicyclists. The Plan's Safety and Security Technical report provides a framework largely grounded in the State's Strategic Highway Safety Plan, that can help member agencies interested in pursuing safety initiatives and strategies at the local level. The Plan also aims to address actionable strategies in which SCAG can support local jurisdictions.

In 2018, SCAG initiated a comprehensive update of its multi-county Regional Intelligent Transportation System (ITS) Architecture. Expected to be completed in 2019, the Regional ITS will make use of advanced detection, communications, and computing technology to improve transportation safety. ITS allows surveillance technologies to collect data about the status of highways, traffic signals, transit vehicles, and rideshare vehicles to improve the efficiency of the system. In addition to this framework, SCAG supports the efforts of local jurisdictions to improve transportation safety through a safe systems approach which utilizes systems thinking to design transportation systems with no deaths or serious injuries. A safe systems approach includes programs such as Vision Zero, which aims to eliminate traffic fatalities and severe injuries by promoting roadway design and policy that recognizes human error and prevents severe injury incidents. Connect SoCal land use strategies aim to focus growth in HQTAs, which are generally located away from high-speed transportation facilities where potential hazards due to design features tend to be high (e.g., mountain roads). Moreover, development in HQTAs would increase the number of SCAG region residents in proximity to transit and in areas with good opportunities for active transportation, making it imperative to design facilities with bike racks, improved sidewalks with shade, bikeways, and welcoming transit stations to promote an active streetscape.

Bicycling has continued to become a more popular activity across the SCAG region. Fatalities and serious injuries between motor vehicles and bicycles have steadily increased throughout the years and remain high. SCAG recommends strategies for local jurisdictions to improve safety for bicyclists, including connecting bicycle facilities, implementing active transportation plans, complete streets policies and intersection control for bicyclists.

The Plan identifies three major findings related to collisions in the SCAG region: fatalities and injuries are mostly occurring on a subset of streets, are increasing and are disproportionately impacting people walking and bicycling, and are occurring mostly in areas with high concentrations of low income residents and/or people of color. Between 2012 and 2016, 68 percent of fatalities and serious injuries have occurred on local streets and 65 percent of fatalities and serious injuries have occurred on less than 1.5

percent of the roadway network, and 66 percent of the High Injury Network is in disadvantaged communities (See Table 3.17-19, Active Transportation Serious Injuries and Fatalities [2006-2016]).⁸¹

Table 3.17-19
Active Transportation Serious Injuries and Fatalities (2006-2016)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Pedestrian Fatalities	399	375	329	318	315	311	376	394	425	423	484
Pedestrian Serious Injuries	1213	1253	1077	1178	1068	1074	1177	1122	1063	1065	1288
Bicycle Fatalities	88	56	61	49	44	66	62	73	68	66	68
Bicycle Serious Injuries	361	318	381	385	397	469	454	434	402	417	371

Source:

SCAG Active Transportation, 2019.

The Plan includes strategies to encourage a complete streets approach to roadway improvements which would include design of facilities to enhance the safety of riders, bicyclists, and pedestrians and minimize hazards. These enhancements would also reduce hazards for drivers. Comprehensive road education, safe pedestrian routes to schools, and other safety campaigns would also occur. The Plan includes 392 safety projects, comprising 19 percent of the total budget, or slightly more than \$5.4 billion in programmed investments (See Table 3.17-20, 2016 RTP/SCS Safety Projects by County).

Table 3.17-20
2016 RTP/SCS Safety Projects by County – FTIP (*Thousands)

County	Total Safety Projects	* Safety Projects Programming	* All Projects Programming	Total Projects	% of Total
Imperial	12	\$11,287	\$60,193	73	16
Los Angeles	232	\$3,037,807	\$19,382,656	936	25
Orange	36	\$516,422	\$3,007,022	180	20
Riverside	55	\$1,311,227	\$7,070,337	396	14
San Bernardino	25	\$182,463	\$4,006,990	265	9
Ventura	30	\$187,597	\$856,230	174	17
Various	2	\$182,463	\$184,686	7	29
Region Totals	392	\$5,429,266	\$34,568,114	2031	19

Source: SCAG Transportation, Safety, and Security, 2019.

⁸¹ SCAG Safety and Security Technical Report, 2019.

In accordance with the provisions governing hazard designs from the Southern California Regional Intelligent Transportation System (ITS), the Plan would not result in an overall increase in hazards due to geometric design features or increase conflicts between incompatible uses, and impacts would be less than significant. Impacts from increased hazards due to geometric design features or incompatible attributes are less than significant.

Impact TRA-4 Result in inadequate emergency access.

Impact WF-1 Substantially impair an adopted emergency response plan or emergency evacuation plan.

Significant and Unavoidable Impact – Mitigation Required.

See also analysis of Impact HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan,” in **Section 3.9, Hazards and Hazardous Materials.**

Natural or manmade disasters can have devastating impacts on our region’s livelihood and infrastructure. It is critically important to protect our region’s infrastructure in the form of transportation, utilities, communications, fuel, and water to provide the residents of this region with the quality of life they deserve. In addition, transportation infrastructure is critical to preserving life as it allows residents and goods to reach necessary destinations. Compromised infrastructure as a result of disaster may have impacts beyond the immediate SCAG region. Additionally, failure of multiple infrastructure components may result in a catastrophic impact to the mobility needs of the region.

Numerous agencies participate in the response to incidents and assist with hazard preparedness for individual jurisdictions. Collaboration occurs between many of these agencies. The Federal Emergency Management Agency (FEMA) oversees coordination. However, FEMA defines metropolitan areas and coordination different than the US Department of Transportation, limiting SCAG’s ability to participate at an agency level. SCAG aims to use its strengths and organization to assist planners, first responders and recovery teams in a supporting role.

Mitigating hazards before the occurrence of a disaster is the primary step in preparing for emergencies, rather than the final step of recovery. The goal of hazard mitigation plans is to guide implementation activities in order to achieve the greatest reduction of vulnerability, which will result in saved lives, reduced injuries, reduced property damage, and greater protection of the environment. FEMA requires state and local governments to develop hazard mitigation plans and update them every three years. The Disaster Mitigation Act of 2000 (DMA 2000), Section 322 (a-d) requires that local governments, as a

condition of receiving federal disaster mitigation funds, have a mitigation plan that describes the process for identifying hazards, risks and vulnerabilities; identifies and prioritizes mitigation actions; encourages the development of local mitigation; and provides technical support for those efforts. “Local Governments” are defined in the DMA 2000 to typically include counties, local municipalities, and tribal governments; but can also include other local agencies and organizations, including Councils of Governments, schools and other special districts.

California updated its State of California Multi-Hazard Mitigation Plan in 2018. The state is required to adopt a federally approved State Multi- Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The Plan is an evaluation of the hazards California faces and the strategies, goals and activities the state will pursue to address these hazards. All six counties and a number of cities within the SCAG region have complete Hazard Mitigation Plans.

While the Plan would impact traffic and delay in the region, California state law requires drivers to yield the right-of-way to emergency vehicles and even permits emergency vehicles to use opposing lane of travel, the center turn lanes, or bus-only lanes. In some instances, roadway reconfigurations with the implementation of transportation improvements could improve emergency access. For example, a roadway reconfiguration could improve emergency access where a bus-only lane or a contiguous center left-turn lane is introduced where it did not previously exist. Emergency vehicles are permitted to use bus-only lanes for local access to emergency destinations. People traveling by bicycle are required to pull to the side of the road to yield access to emergency providers regardless if they are traveling in a bus-only lane or in a standard travel lane. It is more likely that when in route to an emergency incident, general traffic will be expected to merge into the bus-only lane, permitting the emergency vehicle to pass in the through lane to the left. Emergency responders also routinely use the center left-turn lanes, or even travel in opposing travel lanes if needed. Generally, multi-lane roadways allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. The Plan includes strategies to improve emergency response services. These include using ITS to improve response times to and from collision sites and the development of guidance documents to share with EMS responders to increase crash scene safety.

Depending on the timing, location, and duration of construction activities, several of the proposed transportation projects (including grade crossings, arterials, interchanges, and auxiliary lanes), would result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services, could occur. For example, closing off one or more lanes of a roadway, emergency routes would be impaired. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Construction of development projects may also interfere with the use of existing transportation facilities (such as roadways) by potentially blocking travel lanes with construction

equipment and through increasing congestion as a result. Coordination with local jurisdictions is generally required by local jurisdictions in order to maintain adequate emergency access for ambulance and emergency services.

Land use strategies in the Plan encourage more compact development. As discussed in **Section 3.15.1, Public Services – Fire**, and **Section 3.15.2, Public Services - Police**, compact land uses are generally more efficient at serving the public for emergency response. This is often because urban areas tend to be well served with these facilities and also because the more compact land use pattern better facilitates access to specific sites.

However, while regulations (especially in urban areas) generally ameliorate potential impacts with respect to emergency access, due to potential increased traffic congestion associated with construction of transportation projects and development projects anticipated to occur in the region, there is the potential for the Plan to result in interference with emergency access. Therefore, the Plan would have the potential to result in inadequate emergency access, constituting a significant impact requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM TRA-7: SCAG shall, in cooperation with local and state agencies, identify critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities. In addition, SCAG shall establish transportation infrastructure practices that promote and enhance security.

SMM TRA-8: SCAG shall provide the means for collaboration in planning, communication, and information sharing before, during, or after a regional emergency. This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

Project Level Mitigation Measures

PMM TRA-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects which may substantially impair implementation of an adopted emergency response plan or emergency evacuation plan, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- Prior to construction, project implementation agencies can and should ensure that all necessary local and state road and railroad encroachment permits are obtained. The project implementation agency can and should also comply with all applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Traffic control plans can and should include the following requirements:
 - Identification of all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
 - Development of circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
 - Scheduling of truck trips outside of peak morning and evening commute hours.
 - Limiting of lane closures during peak hours to the extent possible.
 - Usage of haul routes minimizing truck traffic on local roadways to the extent possible.
 - Inclusion of detours for bicycles and pedestrians in all areas potentially affected by project construction.
 - Installation of traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.

- Development and implementation of access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals, and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, affected jurisdictions can and should be asked to identify detours for emergency vehicles, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Storage of construction materials only in designated areas.
- Coordination with local transit agencies for temporary relocation of routes or bus stops in work zones, as necessary.
- Ensure the rapid repair of transportation infrastructure in the event of an emergency through cooperation among public agencies and by identifying critical infrastructure needs necessary for: a) emergency responders to enter the region, b) evacuation of affected facilities, and c) restoration of utilities.
- Enhance emergency preparedness awareness among public agencies and with the public at large.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis, potential increases in traffic and construction-related impediments to emergency access and SCAG's lack of authority to require project-level mitigation measures, this PEIR finds impacts related to emergency access to be significant and unavoidable.



Speed in Miles Per Hour
 ~ Less than 35 ~ 36 to 50 ~ Greater than 50

SOURCE: SCAG, 2019

FIGURE 3.17-1

2019 AM Peak Period Congestion Delay on Regional Freeway System



1329.001•10/19



Speed in Miles Per Hour
 — Less than 35 — 36 to 50 — Greater than 50

SOURCE: SCAG, 2019

FIGURE 3.17-2

2045 AM Peak Period Congestion Delay on Regional Freeway System



1329.001•10/19

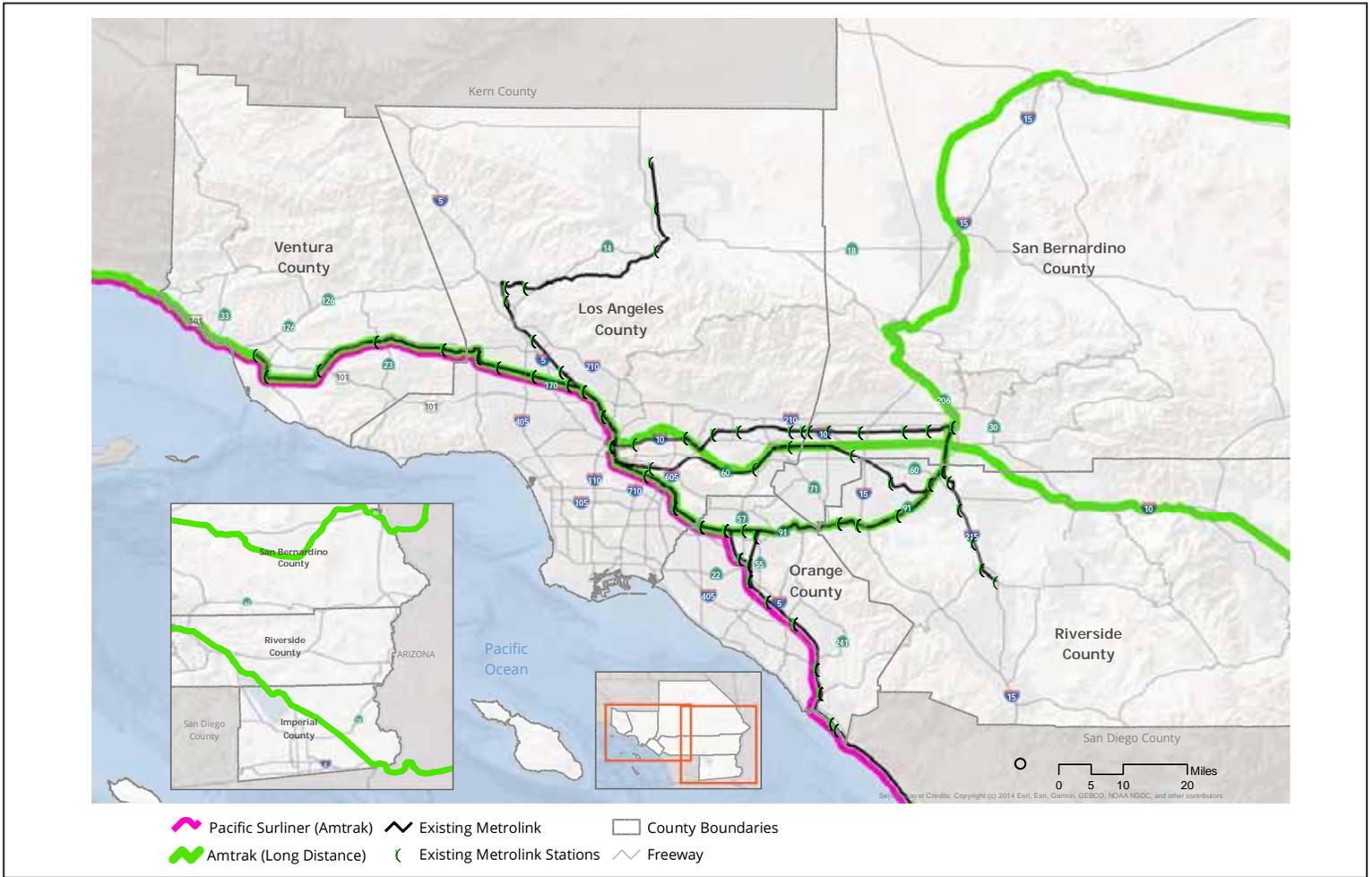


SOURCE: SCAG, 2019

FIGURE 3.17-4

2045 PM Peak Period Congestion Delay on Regional Freeway System

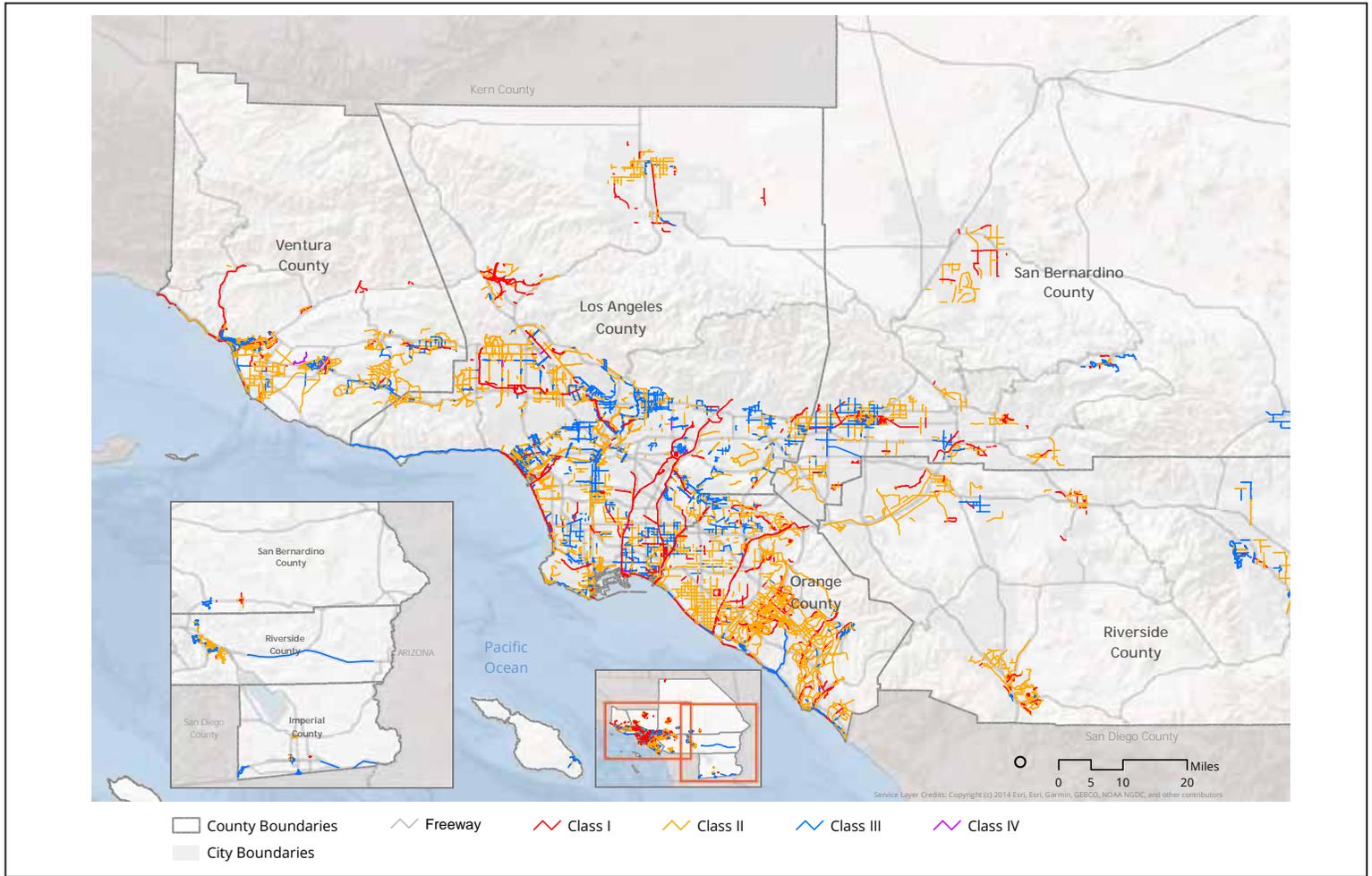




SOURCE: SCAG, 2019

FIGURE 3.17-5

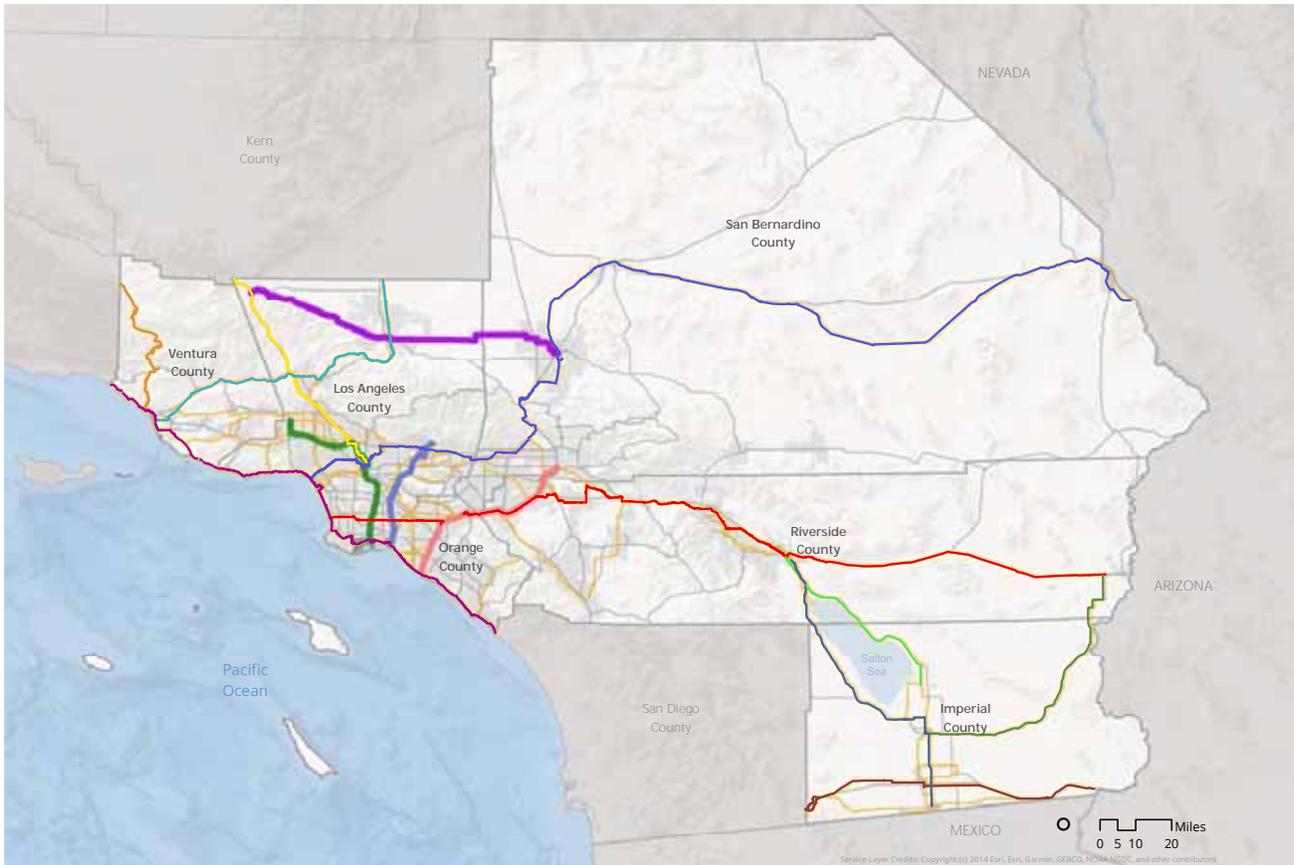
Amtrak Railways



SOURCE: SCAG, 2019

FIGURE 3.17-6

Existing Regional Bikeways



- | | | | | | | |
|----------------------------------|-------------------|-----------------------|-------------------|------------------|---|-------------------------|
| Desert & River Routes | San Gabriel River | Bicycle Routes | Bicycle Route 126 | Bicycle Route 66 | Bicycle Route 86 | Other Regional Bikeways |
| High Desert Corridor | Santa Ana River | Bicycle Route 10 | Bicycle Route 33 | Bicycle Route 78 | Bicycle Route 95, Pacific Coast Highway | |
| Los Angeles River | Bicycle Route 111 | Bicycle Route 5 | Bicycle Route 8 | | | |

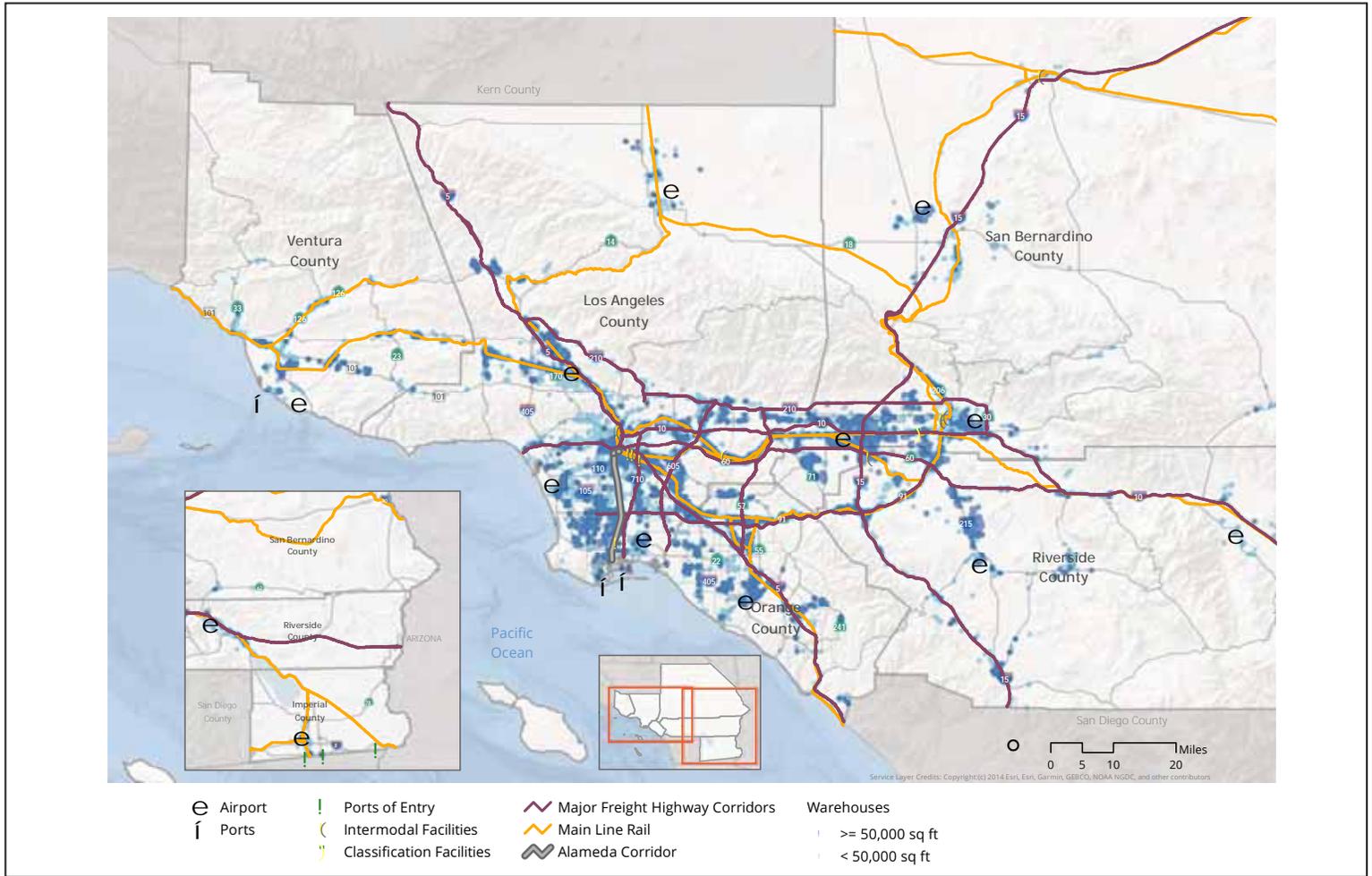
SOURCE: SCAG, 2019

FIGURE 3.17-7

Existing and Proposed Regional Bikeways (2045)



1329.001•10/19



SOURCE: SCAG, CoStar Realty Information, Inc., 2019

FIGURE 3.17-8

Existing Regional Goods Movement System

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3.18 TRIBAL CULTURAL RESOURCES

This section of the Program Environmental Impact Report (PEIR) describes the tribal cultural resources in the SCAG region, identifies the regulatory framework with respect to laws and regulations that govern tribal cultural resources, and evaluates and discusses the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.18.1 ENVIRONMENTAL SETTING

3.18.1.1 Definitions

California Historical Resources Information System (CHRIS): The California Historical Resources Information System (CHRIS) consists of the California Office of Historic Preservation (OHP), nine Information Centers (ICs), and the State Historical Resources Commission (SHRC). The OHP administers and coordinates the CHRIS and presents proposed CHRIS policies to the SHRC, which approves these policies in public meetings. The CHRIS Inventory includes the State Historic Resources Inventory maintained by the OHP as defined in California Public Resources Code [PRC] § 5020.1(p), and the larger number of resource records and research reports managed under contract by the nine ICs.

Tribal Cultural Resources: Pursuant to Assembly Bill (AB) 52, a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe and is either on or eligible for the California Historic Register or a local historic register, or such a resource that the lead agency, at its discretion, chooses to treat the resource as a Tribal Cultural Resources (see PRCPRC §§ 21074 (a)(1)(A)-(B)). A tribal cultural resource may also include a unique archaeological resource (see PRC § 21083.2(g)) or a “nonunique archaeological resource” (see PRC § 21083.2(h), subject to the provisions of PRC § 21074 (a)) may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Unique archeological resource: Pursuant to Section 21083.2 of the PRC, a unique archaeological resource includes artifacts or sites that meet any one or all of the following criteria:¹

- It has made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to California’s past;

¹ California Legislative Information. 1972. *Chapter 2.6. General [21080-21098], Section 21083.2.*

- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
- It has yielded, or may be likely to yield, information important to the prehistory or history of California.

Unique geologic feature: An important and irreplaceable geological formation. Such features may have scientific and/or cultural values.

3.18.1.2 Existing Conditions

Detailed information regarding the prehistoric occupation is presented in **Section 3.5, Cultural Resources**, of this PEIR. As noted in **Section 3.5**, the SCAG region once was the home to at least 11 distinct Native American groups. These include the Cahuilla, Chumash, Gabrielino, Halchidhoma, Kitanemuk, Luiseno, Mohave, Quechan, Serrano, Southern Paiute, Tataviam, and Tipai. The territorial boundaries of the Native Americans who were residing in Southern California at the time of first European contact do not coincide with today's political boundaries. Moreover, many tribal boundaries overlapped and most groups migrated within their general boundaries throughout the years.

The federal government established reservations in Southern California between 1875 and 1891. This includes the Martinez, Fort Yuma, and Colorado River reservations in Imperial County. In Riverside County are Torres, Cabazon, Augustine, Santa Rosa, Ramona, Pechanga, Soboba, Agua Caliente, Mission Creek, and Morongo. The reservations in San Bernardino County are the San Manuel, Chemehuevi, Fort Mojave, Twentynine Palms reservations. No reservations were established in Los Angeles, Ventura, or Orange Counties. It was believed that the local Native American groups in those counties had become extinct.²

As of July 2019, over 109,000 archaeological resource locations have been identified in the SCAG region (**Table 3.18-1, Archeological Resources Listed in the CHRIS**). In order to protect these archaeological sites, and the artifacts contained within their boundaries, from scavenging and looting, their locations are confidential. Under state law, detailed information about these sites, especially their location, is considered confidential.

² Environmental Protection Agency, Region 9 – Air. 2011. *California Tribal Lands*. Available online at: https://www3.epa.gov/region9/air/maps/pdfs/air1100040_3.pdf, accessed August 27, 2019.

**Table 3.18-1
Archeological Resources Listed in the CHRIS**

County	Archeological Resources	Archeological Resources Listed in CHRIS
Imperial*	12,398	16,500 (approx.)
Los Angeles	4,886	18,599
Orange	1,775	5,498
Riverside**	20,200 (approx.)	28,612
San Bernardino	8,236	36,924
Ventura	1,864	3,226
SCAG Region Total	49,359	109,359

Source:

SWCA Environmental Consultants, Inc. (2019).

* The SCIC database is currently being revised and the count of total resources is an approximation based on current listings. The number of resources with archaeological components is taken from the 2016 General Plan, Open Space & Conservation Element. The total number of resources was approximated by SCIC staff and provided to SWCA via email on July 1, 2019.

** The EIC database is not currently configured to distinguish historic-period archaeological resources from non-archaeological historic resources (i.e., buildings, structures, etc.). Instead, the EIC provided tallies of resources with components dating to the respective periods as follows: 13,993 Prehistoric archaeological sites; 1 Protohistoric archaeological site; 15,313 Historic period cultural resources (archaeological sites and historic resources); 202 sites of unknown cultural or temporal affiliation. Because an individual resource may have components that fall into multiple periods, the sum of all resources listed for each period is greater than the total number of resources. The total number of archaeological sites was estimated for Riverside County to allow for comparison with other counties across the SCAG region. This was done for Riverside County by taking the 13,994 archaeological sites listed as Prehistoric and Protohistoric (because these resources can only be archaeological sites) and adding an estimated fraction of those listed as Historic and Unknown Period, which could consist of historic resources (i.e., non-archaeological). The estimate provided here assumes 40 percent of those resources listed as Historic or Unknown Period have archaeological components that are not multi-component resources (and already tallied as Prehistoric or Protohistoric).

Native American Sacred Sites

Within the SCAG region there are 16 federally recognized tribes (84 Fed. Reg. § 1200) with lands administered as federal Indian reservations, also known as pueblos, rancherias, missions, villages, communities, etc.:³

- Agua Caliente Band of Cahuilla Indians
- Augustine Band of Mission Indians
- Cabazon Band of Mission Indians
- Cahuilla Band of Indians
- Chemehuevi Indian Tribe

³ Federal Register. *Indian Entities Recognized by and Eligible To Receive Services From the United States Bureau of Indian Affairs*. Updated 02/01/2019. Available at: <https://www.federalregister.gov/d/2019-00897>, accessed September 13, 2019.

- Colorado River Indian Tribe
- Fort Mojave
- Morongo Band of Mission Indians
- Quechan Indian Tribe
- Pechanga Band of Luiseño Indians
- Ramona Band of Cahuilla Mission Indians
- San Manuel Band of Mission Indians
- Santa Rosa Band of Cahuilla Indians
- Soboba Band of Luiseno Indians
- Torres-Martinez Desert Cahuilla Indians
- Twenty-Nine Palms Band of Mission Indians

Recognizing that tribal groups may have expertise with regard to their tribal history and practices that others may not, Assembly Bill 52 (AB 52) (as will be discussed in more detail below) requires lead agencies to provide notice to all tribal groups that are traditionally, culturally, and historically affiliated with the geographic area of a proposed project if they have requested such notice. Some of these groups are not federally recognized, have had their federal recognition revoked, or are in the processes of requesting federal recognition. The Native American Heritage Commission (NAHC) maintains the list of tribes that are traditionally and culturally affiliated within a specified geographic area.

Native American sacred sites reflect the evolution of the Southern California landscape, reflecting the rich cultural heritage of Native American cultures that predate and continued beyond European contact. Native American sacred sites may be related to a range of topics, including origins of the universe, the shifting of tectonic plates, and an evolving array of plants and animals that give Southern California its unique features today. Some sites are associated with the migration of humans into the region, where they settled, and how they lived. These sites document the view of Native American cultures of their own history and way of life.

The NAHC is charged with identifying, cataloging, and protecting Native American cultural resources and sacred sites, which is maintained as the SLF. **Table 3.18-2, Sacred Lands Recorded by the NAHC in the SCAG Region**, shows the total number of listings within each county. The nature and precise location of these resources is confidential.

**Table 3.18-2
Sacred Lands Recorded by the NAHC in the SCAG Region**

County	Sacred Lands
Imperial	84
Los Angeles	38
Orange	45
Riverside	123
San Bernardino	61
Ventura	12
SCAG Region Total	363

Source: NAHC, (provided July 5, 2019).

Tribal Consultation

SWCA Environmental Consultants (SWCA) led the AB 52 process undertaken by SCAG. SWCA contacted the NAHC on behalf of SCAG on December 5, 2018 to request a Sacred Lands File Search and CEQA Tribal Consultation List under AB 52. The NAHC responded in a letter dated December 18, 2018 and indicated that the SLF search yielded positive results; the letter also included a list of 61 contacts for tribal consultation. SCAG sent letters to all 61 of these contacts via certified mail on January 8, 2019. SCAG's letter described the Plan and PEIR, and invited tribal parties to consult under AB 52. On behalf of SCAG, SWCA subsequently followed up by email on March 13, 2019 with those contacts who had not responded. In total, seven parties responded to SCAG's outreach effort. Two of these, the Pala Band of Mission Indians and the Big Pine Paiute Tribe of the Owens Valley, declined consultation. Five parties – the Agua Caliente Band of Cahuilla Indians, the Fernandeno Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians Acjachemen Nation, and the San Manuel Band of Mission Indians – requested consultation and additional details, including the cultural resources technical study, once completed. SCAG replied to the five parties who requested consultation and provided a timeline for the cultural resources technical study, which it anticipates sharing in late 2019. SCAG also invited the interested tribes to attend project scoping meetings.

3.18.2 REGULATORY FRAMEWORK

3.18.2.1 Federal Regulations

Antiquities Act of 1906

The Antiquities Act of 1906 (16 U.S. Code [U.S.C.] §§ 431–433), which aimed to protect important historic and archaeological sites, initiated historic preservation legislation. It established a system of permits for conducting archaeological studies on federal land, as well as setting penalties for noncompliance. This permit process controls the disturbances that may be caused to archaeological sites.⁴ New permits are currently issued under the Archaeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archaeological resources on public and Native American lands.⁵

Historic Sites Act of 1935

The Historic Sites Act (16 U.S.C. §§ 461–467) became law on August 21, 1935, and declared that it is national policy to “Preserve for public use historic sites, buildings, and objects of national significance.”⁶ The National Historic Preservation Act (NHPA) expanded the scope to include important state and local resources. Provisions of NHPA established the National Register maintained by the National Park Service, advisory councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Section 106 of the NHPA requires all federal agencies to consult the Advisory Council before continuing any activity affecting a property listed on or eligible for listing on the National Register.⁷ The Advisory Council has developed regulations for Section 106 to encourage coordination of agency cultural resource compliance requirements (Executive Order 11593).⁸

National Register of Historic Places (National Register)

The National Register recognizes properties that are significant at the national, state, and/or local levels. Although administered by the National Park Service, the federal regulations explicitly provide that

⁴ National Park Service. *American Antiquities Act of 1906, 16 U.S.C. 431-433*. Available online at: <https://www.nps.gov/history/local-law/anti1906.htm>, accessed August 27, 2019.

⁵ National Park Service. *Archaeological Resources Protection Act*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchRsrcsProt.pdf, accessed August 27, 2019.

⁶ National Park Service. *Historic Sites Act of 1935, 16 U.S.C. sec. 461-467*. Available online at: <https://www.nps.gov/history/local-law/hsact35.htm>, accessed August 27, 2019.

⁷ National Park Service. *National Historic Preservation Act of 1966, Public Law 102-575*. Available online at: <https://www.nps.gov/history/local-law/nhpa1966.htm>, accessed August 27, 2019.

⁸ Federal Register. *Executive Order 11593 – Protection and enhancement of the cultural environment*. Available online at: <https://www.archives.gov/federal-register/codification/executive-order/11593.html>, accessed August 27, 2019.

National Register listing of private property “does not prohibit under federal law or regulation any actions which may otherwise be taken by the property owner with respect to the property.” Listing in the National Register assists in preservation of historic properties through: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally-assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a surface coal mining permit; and qualification for federal assistance for historic preservation, when funds are available. In addition, for projects that receive federal funding, a clearance process must be completed in accordance with Section 106 of the NHPA. Furthermore, state and local regulations may apply to properties listed in the National Register.⁹

The criteria for listing in the National Register follow the standards for determining if properties, sites, districts, structures, or landscapes of potential significance are eligible for nomination. In addition to meeting any or all of the following criteria, properties nominated must also possess integrity of location, design, setting, feeling, workmanship, association, and materials that:¹⁰ A property is eligible for the NRHP if it is significant under one or more of the following criteria:

Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: It is associated with the lives of persons who are significant in our past;

Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or

Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the “ability of a property to convey its significance” (NPS 1990). In order

⁹ Government Publishing Office. 2019. *Title 36: Parks, Forests, and Public Property, Part 60 – National Register of Historic Places*.

¹⁰ Ibid.

to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

Location: the place where the historic property was constructed or the place where the historic event occurred;

Design: the combination of elements that create the form, plan, space, structure, and style of a property;

Setting: the physical environment of a historic property;

Materials: the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

Feeling: a property's expression of the aesthetic or historic sense of a particular period of time;

Association: the direct link between an important historic event or person and a historic property.

Procedures for listing a property in the NRHP are outlined in Procedures for State, Tribal, and Local Government Historic Preservation Programs (36 C.F.R. § 61) and in Determinations of Eligibility for Inclusion in the National Register (36 C.F.R. § 63). The Secretary of the Interior's Professional Qualifications Standards for who is allowed to conduct cultural resources studies and evaluations are outlined in 36 C.F.R. § 61.

Procedures for artifact curation are noted in Curation of Federally Owned and Administered Archeological Collections (36 C.F.R. § 79) for artifacts recovered under the authority of the Antiquities Act (16 U.S.C. §§ 431- 433), the Reservoir Salvage Act (16 U.S.C. §§ 469-469c), Section 110 of the NHPA (16 U.S.C. § 470h-2), or the ARPA (16 U.S.C. §§ 470aa-mm).

National Historic Preservation Act of 1966 (NHPA)

The NHPA, as amended (54 U.S.C. § 470 *et seq.*), established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes requirements (Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. Under the Section 106

consultation process (36 C.F.R. § 800 *et seq.*), federal agencies taking such actions are required to consult with the Advisory Council on Historic Preservation (ACHP), State Historic Preservation Officer (SHPO), local agencies, and Indian tribes, and avoid or mitigate adverse effects on National Register-listed or -eligible properties. Provisions of NHPA establish a National Register of Historic Places (National Register); see above for details.¹¹

Archaeological and Historic Preservation Act of 1974

Passed and signed into law in 1974, The Archaeological and Historic Preservation Act of 1974 (AHPA), 16 U.S.C. § 469 *et seq.*) amended and expanded the Reservoir Salvage Act of 1960. The AHPA as amended requires that federal agencies provide for the preservation of historical and archaeological data (including relics and specimens) which might otherwise be irreparably lost or destroyed as the result of any alteration of the terrain caused by any federal construction project or federally-licensed activity or program.¹²

Archaeological Resources Protection Act of 1979

The ARPA (16 U.S.C. § 470aa *et seq.*) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.¹³

The American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act of 1978 (AIRFA) (42 U.S.C. § 1996) proclaims that the US Government will respect and protect the rights of Indian tribes to the free exercise of their traditional religions; the courts have interpreted this as requiring agencies to consider the effects of their actions on traditional religious practices.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. § 3001 *et seq.*) also applies if human remains of Native American origin are discovered on federal or tribal land. NAGPRA requires federal agencies and federally-assisted museums to return “Native American cultural

¹¹ National Park Service. *National Historic Preservation Act of 1966 as amended through 1992*. Available online at: <https://www.nps.gov/history/local-law/nhpa1966.htm>, accessed August 27, 2019.

¹² National Park Service. *Archeological and Historic Preservation Act as Amended*. Available online at: https://www.nps.gov/history/local-law/FHPL_ArchHistPres.pdf, accessed August 27, 2019.

¹³ National Park Service. *The Archaeological Resources Protection Act of 1979 (ARPA)*. Available online at: <https://www.nps.gov/archeology/tools/Laws/ARPA.htm>, accessed August 27, 2019.

items” to the federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Regulations (43 C.F.R. Part 10) stipulate the following procedures be followed. If Native American human remains are discovered, the following provisions would be followed to comply with regulations:

- Notify, in writing, the responsible federal agency;
- Cease activity in the area of discovery and protect the human remains;
- Certify receipt of the notification;
- Take steps to secure and protect the remains;
- Notify the Native American tribes or tribes likely to be culturally affiliated with the discovered human remains within one working day; and
- Initiate consultation with the Native American tribe or tribes in accordance with regulations described in 43 C.F.R., Part 10, Subpart B, Section 10.5.

Archaeology and Historic Preservation; Secretary of the Interior’s Standards and Guidelines

Offers non-regulatory technical advice about the identification, evaluation, documentation, study, and other treatment of cultural resources. Notable in these Guidelines are the Standards for Archaeological Documentation, Professional Qualifications Standards for Archaeology, and Standards for the Treatment of Historic Properties.

3.18.2.2 State

Office of Historic Preservation

As an office of the California Department of Parks and Recreation, the Office of Historic Preservation (OHP) implements the policies of the NHPA on a statewide level. The OHP also carries out the duties set forth in the Public Resources Code and maintains the California Historic Resources Inventory.

The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state’s jurisdiction.

California Register of Historical Resources (California Register)

The California Register is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate

which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change.”¹⁴ The criteria for eligibility for the California Register are based upon National Register criteria. These criteria are:

- Criterion 1 – Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California of the United States;
- Criterion 2 – Associated with the lives of persons important to local, California or national history;
- Criterion 3 – Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; and
- Criterion 4 – Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register of Historic Places (Category 1 in the State Inventory of Historical Resources) and those formally Determined Eligible for listing in the National Register of Historic Places (Category 2 in the State Inventory);
- California Registered Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion in the California Register.

Other resources which may be nominated for listing in the California Register include:

- Historical resources with a significance rating of Categories 3 through 5 in the State Inventory. (Categories 3 and 4 refer to potential eligibility for the National Register, while Category 5 indicates a property with local significance);
- Individual historical resources;
- Historical resources contributing to historic districts; and

¹⁴ Public Resources Code Section 50241 (e)

- Historical resources designated or listed as a local landmark.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance. Historical resources that have been rehabilitated or restored may be evaluated for listing.

California Public Resources Code, Sections 5097.5, 5097.9, 5097.98–99, and 50907.9

Section 5097.5 of the PRC defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands. This Section also prohibits the knowing destruction of objects of antiquity without a permit (expressed permission) on public lands, and provides for criminal sanctions. In 1987, the Code was amended to require consultation with the California Native American Heritage Commission whenever Native American graves are found. It also established that violations for taking or possessing remains or artifacts are felonies.

PRC Section 5097.9 establishes the California Native American Heritage Commission to make recommendations to encourage private property owners to protect and preserve sacred places in a natural state and to allow appropriate access to Native Americans for ceremonial or spiritual activities. The Commission is authorized to assist Native Americans in obtaining appropriate access to sacred places on public lands, and to aid state agencies in any negotiations with federal agencies for the protection of Native American sacred places on federally-administered lands in California.

PRC sections 5097.98 through 5097.99 require that the Governor's California Native American Heritage Commission be consulted whenever Native American graves are found. According to these sections, it is illegal to take or possess remains or artifacts taken from Native American graves; however, it does not apply to materials taken before 1984. Violations occurring after January 1, 1988 are felonies.

PRC Section 50907.9 (Section 7050 of the Health and Safety Code) authorizes the NAHC to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased. PRC 5097.98(b) requires that landowners ensure that the immediate vicinity (according to generally accepted cultural or archaeological standards of practices) are not damaged or disturbed by further development until the landowner has discussed and conferred with most likely descendants.

AB 52 and Tribal Cultural Resources

Approved by Governor Brown on September 25, 2014, AB 52 establishes a formal notification and, when requested, consultation process for California Native American Tribes to identify significant impacts to Tribal Cultural Resources (TCRs), as defined in PRC section 21074, as part of CEQA. Tribal cultural resources are defined in PRC section 21074, subdivision (a), as either: (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included or determined to be eligible for inclusion in the California Register of Historical Resources, or included in a local register of historical resources (as defined by statute); or (2) resources determined by the lead agency, and supported by substantial evidence, to be significant pursuant to subdivision (c) of Section 5024.1. If the following resources meet the requirements of subdivision (a), they also be considered “tribal cultural resources”: (1) a cultural landscape that is geographically defined in terms of the size and scope of the landscape; or (2) a historical resource described in Section 21084.1, or a unique archaeological resource defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2.

In the project planning stage, AB 52 requires the Lead Agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of the proposed project, prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. If the Lead Agency has not been contacted by any tribal parties who wish to consult on projects, the Lead Agency may contact the NAHC to obtain a list of traditionally and culturally affiliated groups affiliated with the geographic area of the proposed project to contact.

Consultation may include discussion concerning the type of environmental review necessary, the significance of the project’s impacts on the tribal cultural resources, and, if necessary, project alternatives or the appropriate measures for preservation and mitigation that the California Native American tribe may recommend to the lead agency. The consultation should be considered concluded when either the parties agree to measures to mitigate or avoid a significant effect, if one exists, on a tribal cultural resource; or a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21082.3.2[b]).

Pursuant to Government Code Sections 6254 and 6254.10, and PRC Section 21082.3(c), information submitted by a California Native American tribe during consultation under AB 52 should not be included in the environmental document or otherwise disclosed to the public by the lead agency, project applicant, or the project applicant’s agent, unless written permission is given. Exemptions to the confidentiality provisions include any information already publicly available, in lawful possession of the project

applicant before being provided by the tribe, independently developed by the project applicant or the applicant's public agent, or lawfully obtained by a third party (PRC Section 21082.3[c]).

California Coastal Act

The California Coastal Act (CCA; PRC Sections 30000 et seq.) includes protection of archaeological resources into Land Conservation Plans that regulate land uses within the coastal zone.

California Health and Safety Code, Section 7050 and Sections 18950 through 18961

Consistent with the provisions of Section 50907.9 of the PRC, Section 7050 of the Health and Safety Code (HSC) authorizes the NAHC to regulate Native American concerns regarding the excavation and disposition of Native American cultural resources. Among its duties, the Commission is authorized to resolve disputes relating to the treatment and disposition of Native American human remains and items associated with burials. Upon notification of the discovery of human remains by a county coroner, the Commission notifies the Native American group or individual most likely descended from the deceased.

The State Historic Building Code (HSC; Sections 18950–18961 provide alternative building regulations and building standards for the rehabilitation, preservation, restoration (including related reconstruction), or relocation of buildings or structures designated as historic buildings. Such alternative building standards and building regulations are intended to facilitate the restoration or change of occupancy so as to preserve their original or restored architectural elements and features, to encourage energy conservation and a cost-effective approach to preservation, and to provide for the safety of the building occupants.

California Penal Code Section 622 – Destruction of Historical Properties

This section of the California Penal Code makes it a misdemeanor for anyone (except the owner) to willfully injure or destroy anything of archaeological interest or value whether on private lands or within any public park or place. In addition, Penal Code Section 622.5 sets the penalties for the damage or removal of cultural resources.

Senate Bill 18 – Traditional Tribal Cultural Places

Senate Bill (SB) 18, enacted in 2004, requires local governments to consult with Native American groups at the earliest point in the local government land use planning process. The consultation intends to establish a meaningful dialogue regarding potential means to preserve Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. It allows for tribes to hold conservation easements and for tribal cultural places to be included in open space planning.

Executive Order B-10-11

Executive Order B-10-11 states that it is the policy of the administration that every state agency and department subject to executive control is to encourage communication and consultation with California Native American tribes. It established the position of Governor's Tribal Advisor in the Office of the Governor of California. This position will serve as a direct link between the Governor's Office and tribal governments on matters including legislation, policy, and regulation.

3.18.2.3 Local

County General Plans

In addition to federal and state regulations, cities and counties in the SCAG region may also provide regulatory protection and advisement regarding cultural resources (**Table 3.18-3, County Policies and Ordinances Relevant to Tribal Cultural Resources in the SCAG Region**). California law requires that a general plan include seven elements (land use, open space, conservation, housing, circulation, noise, and safety). Many jurisdictions incorporate policies related to cultural and historical resources into the conservation element. Other jurisdictions choose to prepare a separate (optional) element dealing with cultural and/or historic preservation issues. Many jurisdictions also prepare ordinances addressing cultural resources and historic preservation.

**Table 3.18-3
County Policies and Ordinances Relevant to Tribal Cultural Resources in the SCAG Region**

County	County Policies and Ordinances
Imperial	<p>Conservation and Open Space Element of General Plan Policy Numbers: Only one policy, Section IV.B.2 Policies Specific to Archaeological Resources: Yes, brief Policies Specific to Paleontological Resources: No Policies Specific to Historic Resources: No</p>
Los Angeles	<p>Chapter 9: Conservation and Natural Resources Element of General Plan Policy Numbers: C/NR 14.1 – C/NR 14.6 Policies Specific to Archaeological Resources: Yes, very brief Policies Specific to Paleontological Resources: Yes, very brief Policies Specific to Historic Resources: Yes, very brief</p>
Orange	<p>Chapter VI: Resources Element of General Plan Policy Numbers: Goals 1, 2 and 3, each with multiple policy numbers Policies Specific to Archaeological Resources: Yes, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: Yes, extensive</p>
Riverside	<p>Chapter 5: Multipurpose Open Space Element of General Plan Policy Numbers: 19.1 – 19.9 Policies Specific to Archaeological Resources: Yes, brief Policies Specific to Paleontological Resources: Yes, brief Policies Specific to Historic Resources: Yes</p>
San Bernardino	<p>Conservation Element (Subchapter C2) of General Plan Policy Numbers: CO 3.1 – CO 3.18 Policies Specific to Archaeological Resources: No – together with historic resources, extensive Policies Specific to Paleontological Resources: Yes, extensive Policies Specific to Historic Resources: No – together with archaeological resources, extensive</p>
Ventura	<p>Chapter 1: Resources (Subchapter 1.8) of General Plan Policy Numbers: 1 – 6 Policies Specific to Archaeological Resources: Yes, Policies 1-3 Policies Specific to Paleontological Resources: Yes, Policies 4 & 5 Policies Specific to Historic Resources: Yes, Policy 6</p>

City General Plans and Ordinances

In accordance with Sections 6530(c) and (d) of the California Government Code, like the six counties in the SCAG region, all cities are required to have a conservation element and an open space element, as mandatory elements of their general plans. Many city general plans have provisions for historic districts and protection of locally important cultural resources that may or may not meet the criteria for eligibility for listing in the NRHP or CRHR.

3.18.3 ENVIRONMENTAL IMPACTS

3.18.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that the Connect SoCal Plan could result in significant impacts to tribal cultural resources, if the project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources. Code Section 5020.1(k); or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.18.3.2 Methodology

The methodology for determining the significance of impacts to tribal cultural resources compares the existing conditions to the future (2045) Connect SoCal conditions, as required by *CEQA Guidelines* Section 15126.2(a). The known tribal cultural resources (i.e. historical or archeological), Native American sacred sites, and human remains located within the SCAG region were evaluated using criteria set forth by the OHP, the CRHR, and the State CEQA Guidelines. Native American sacred sites were analyzed using information provided by the NAHC from the SLF. The NAHC does not disclose the location or nature of the SLF listings, which limits the analysis to a count of resources within respective counties.

Nearly 50,000 archaeological resources have been identified in the SCAG region. Each of these sites is documented at an Archaeological Information Center, which holds location information on archaeological sites for each region in California. These known resources are limited to areas that have been subject to various levels of research or investigation. Areas that have been subject to pedestrian surveys or sub-surface explorations represent only a fraction of the total area with the potential to yield such resources. Therefore, the analysis focuses on the potential for major transportation projects to necessitate ground-disturbing activities in areas where significant archeological resources have been previously recorded or require work in sediments that have not been previously investigated.

As described in **Section 3.18.2.1**, SWCA Environmental Consultants (SWCA) led the tribal consultation process undertaken by SCAG. SWCA contacted the NAHC to request a Sacred Lands File Search and CEQA Tribal Consultation List.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.18.3.3 Impacts and Mitigation Measures

- Impact TCR-1** **Cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 that is:**
- a) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**
 - b) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.**

Significant and Unavoidable - Mitigation Required.

Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

To assist in this analysis, pursuant to AB 52, SCAG contacted NAHC and is currently consulting with five parties – the Agua Caliente Band of Cahuilla Indians, the Fernandeño Band of Mission Indians, the Gabrieleno Band of Mission Indians – Kizh Nation, the Juaneño Band of Mission Indians Acjachemen

Nation, and the San Manuel Band of Mission Indians – who requested consultation and additional details. SCAG will be providing the cultural resources technical study to these parties once it is completed and will incorporate any information received from the parties as appropriate in the Final EIR.

Direct permanent impacts to TCRs (resources either listed or eligible for listing in the California Register of Historical Resources, or local register of historical resources, or resources determined by the lead agency to be significant) may result from ground disturbance associated with construction, such as grading and excavation. The development of new transportation facilities, construction of additional lanes, or the projected land use pattern stemming from the Plan may have a relatively higher potential to directly impact TCRs, primarily by grading or excavation in previously undisturbed soil and by the disturbance of buried resources that have not been previously identified. The potential for direct impacts to TCRs may be comparatively less for improvements to existing facilities and modifications to existing rights-of-way since these areas have been previously disturbed. Regardless of prior disturbance, however, any excavation has the potential to directly impact undocumented TCRs of an archaeological nature.

Tribal cultural resources are likely to be encountered near areas of prior Native American occupation and activity, which includes areas both within and outside areas of current development. Surficial archaeological deposits that are TCRs are more likely to be heavily disturbed within urban areas and more intact in rural settings; however, this does not preclude the presence of buried archaeological resources that may be significant in urban settings. Archaeological sites that may meet the TCR definition that have been buried below grade have no surface manifestations, making accurate prediction of their location during project planning problematic.

Direct permanent impacts would be significant if TCRs cannot be avoided or preserved in place by project design or redesign and are destroyed or substantially altered. Disturbance of TCR features or places would compromise the traditional use of or the cultural character and integrity of the resource and may result in a significant impact if its contributing characteristics or the character of its physical setting is destroyed or substantially altered. Permanent direct impacts may be addressed by advance project planning and consulting with tribes that have requested consultation to ensure known TCRs are avoided and preserved in place, or to develop project alternatives that would minimize impacts to known TCRs. Permanent direct impacts to TCRs of an archaeological nature discovered inadvertently during project construction may be addressed by project redesign to avoid and preserve the TCR, and by requested tribal consultation focused at minimizing the impact.

Permanent indirect impacts from construction and operational improvements may result from potential access-related damage to TCRs when public accessibility is increased due to changes in land use or new

or improved transportation networks stemming from the Plan. The likelihood of unauthorized artifact collecting and destruction (intentional or unintentional) of TCRs of an archaeological nature, or of damage to or destruction (intentional or unintentional) of TCRs that are traditional places for gathering natural resources, cultural landscapes or sacred places, increases with ease of access. Recreational use, overland vehicle travel, and vandalism would degrade the integrity and traditional use of the TCRs. Ensuring appropriate measures that would minimize or reduce damage to TCRs are devised during project planning, coupled with requested tribal consultation, may reduce indirect access-related impact.

While there are state requirements in place to minimize adverse impacts to TCRs, there is still the potential for access-related damage associated with construction and operation of projects under the Plan. Therefore, the potential direct regional impacts on TCRs related to the transportation projects and growth under the Plan could result in substantial alteration or removal of a TCR. Indirect impacts from access-related damage from construction projects and ongoing operations resulting from the Plan are also considered significant requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM TCR-1: Impacts to tribal cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts and sharing of associated online Training materials. SCAG shall consult with the Native American Heritage Commission, as well as Native American tribes, to identify opportunities for early and effective consultation to identify tribal cultural resources to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

Project Level Mitigation Measures

See PMM CULT-1.

PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources. Such

measures may include the following or other comparable measures identified by the Lead Agency:

- a) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria;
- b) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: protecting the cultural character and integrity of the resource; protecting the traditional use of the resource; and protecting the confidentiality of the resource;
- c) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places; and protecting the resource.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce each of the impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations and locations of the unknown tribal cultural resources, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts to tribal cultural resources could be significant and unavoidable even with implementation of mitigation.

3.18.4 SOURCES

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3.19 UTILITIES AND SERVICE SYSTEMS

This section of the Program Environmental Impact Report (PEIR) describes the existing utilities and service systems in the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect utilities and service systems, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.19.1 DEFINITIONS

To provide a context for analysis, definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for utilities and service systems are provided below.

Nonhazardous Municipal Solid Waste: More commonly known as trash or garbage—consists of everyday items that are used and then thrown away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from homes, schools, hospitals, and businesses.

Regional Water Quality Control Board (RWQCB): There are nine RWQCBs in California. The RWQCBs protect ground and surface water quality and are responsible for implementing Water Quality Control Plans.¹

Sanitary Landfill: Sanitary landfills are sites where waste is isolated from the environment until it is safe. It is considered safe when it has completely degraded biologically, chemically and physically.

Septic Tank: An underground vessel for treating wastewater from a single dwelling or building by a combination of settling and anaerobic digestion. Effluent is usually disposed of through a dispersal system which consists of one or a combination of leach fields, seepage pits, and/or subsurface drip dispersal system. Settled solids in septic tank are pumped out periodically and hauled to a treatment facility for disposal.

Storm Water and Stormwater: In layman’s terms, stormwater is defined as an abnormal amount of surface water due to a heavy rain or snowstorm. The term “stormwater,” instead of “storm water,” is used when employed by the cited source of information. In all other instances, “stormwater” is used,

¹ Water Education Foundation. *Regional Water Quality Control Boards in California*. Available online at: <https://www.watereducation.org/aquapedia/regional-water-quality-control-boards-california>, accessed September 4, 2019.

consistent with the provision of Appendix G of the *CEQA Guidelines* and as defined by the U.S. EPA. Stormwater runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, or other pollutants that could adversely affect water quality if the runoff is discharged untreated.²

Tier 1 Onsite Wastewater Treatment System (OWTS): Low Risk New or Replacement OWTS (Policy Section 7 & 8) applies to new or replacement OWTS that comply with conservative siting and design standards describe in the OWTS Policy. Tier 1 applies when a Local Agency Management Program (LAMP) has not been approved by the Regional Water Board. Maximum flow rate is 3,500 gallons per day (gpd).³

Tier 2 Onsite Wastewater Treatment System (OWTS): Local Agency Management Program (LAMP) for New or Replacement OWTS (OWTS Policy Section 9) applies to new or replacement OWTS that comply with the siting and design standards in an approved LAMP. LAMPs are developed by Local Agencies based on local conditions; siting and design standards may differ from Tier 1 standards. Maximum flow rate is 10,000 gpd.⁴

Tier 3 Onsite Wastewater Treatment System: Advanced Protection Management Program (OWTS Policy Section 10). Applies to OWTS located near impaired surface water bodies that are subject to a Total Maximum Daily Load (TMDL) implementation plan, a special provision contained in a LAMP, or is located within 600 feet of a water body listed on OWTS Attachment 2. Supplemental treatment requirements may apply to a Tier 3 system. Maximum flow rate is 10,000 gpd.⁵

Water Supply System: A water supply system is a system for the collection, transmission, treatment, storage and distribution of water from source to consumers, for example, homes, commercial establishments, industry, irrigation facilities and public agencies for water-related activities (firefighting, street flushing, and so forth).

² U.S. Environmental Protection Agency. *NPDES Stormwater Program*. Available online at: <https://www.epa.gov/npdes/npdes-stormwater-program>, accessed September 4, 2019.

³ California Water Boards. *Fact Sheet: Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_fact_sheet_20180823.pdf, accessed September 4, 2019.

⁴ Ibid.

⁵ Ibid.

Wastewater: The spent or used water of a community or industry that contains dissolved and suspended matter.

3.19.1 SOLID WASTE

3.19.1.1 ENVIRONMENTAL SETTING

3.19.1.1.1 Existing Conditions

The majority of solid waste within the SCAG region is disposed of at landfills. Due to increased recycling and waste reduction initiatives, solid waste within the SCAG region has declined in recent years. CalRecycle's Solid Waste Information System (SWIS) tracks the total tonnage of solid waste disposed in 2018 (the most recent year for which data is available), by county. As shown below, in **Table 3.19.1-1, Solid Waste Tonnage within the SCAG Region (2018)**, the total amount of solid waste disposed of in the SCAG region was 19,550,712 tons in 2018.¹ This number includes waste trucked into the region from counties outside the SCAG boundaries.

**Table 3.19.1-1
Solid Waste Tonnage within the SCAG Region (2018)**

County	Total Tonnage
Imperial	305,522
Los Angeles	5,478,772
Orange	5,054,229
Riverside	4,899,025
San Bernardino	1,908,462
Ventura	1,908,462
Total	19,550,712

Source:

CalRecycle. 2019. Landfill Tonnage Reports. Available online at: <https://www2.calrecycle.ca.gov/LandfillTipFees/>, accessed September 5, 2019.

Solid Waste Management Departments

Landfills

A landfill is a waste management unit at which waste is discharged in or on land for disposal. Landfills do not include surface impoundment, waste pile, land treatment unit, injection well, or soil

¹ This is approximately half the total solid waste disposed of in California in 2018.

amendments.² Landfills that receive solid waste in the SCAG region are listed in **Table 3.19.1-2** below.

Table 3.19.1-2
Active Solid Waste Landfills by SCAG County

County	Name
Imperial	Calexico Solid Waste Site
Imperial	Niland Solid Waste Site
Imperial	Salton City Solid Waste Site
Imperial	Imperial Landfill
Imperial	Monofill Facility
Imperial	Mesquite Regional Landfill
Los Angeles	Scholl Canyon Landfill
Los Angeles	Burbank Landfill Site No. 3
Los Angeles	Lancaster Landfill and Recycling Center
Los Angeles	Chiquita Canyon Sanitary Landfill
Los Angeles	Calabasas Landfill
Los Angeles	Pebbly Beach (Avalon) Disposal Site
Los Angeles	San Clemente Island Landfill
Los Angeles	ABC Waste Management Unpermitted D.S.
Los Angeles	Sunshine Canyon City/County Landfill
Los Angeles	Antelope Valley Public Landfill
Los Angeles	Savage Canyon Landfill
Orange	Prima Deshecha Sanitary Landfill
Orange	Olinda Alpha Sanitary Landfill
Orange	Frank R. Bowerman Sanitary LF
Riverside	Badlands Sanitary Landfill
Riverside	Lamb Canyon Sanitary Landfill
Riverside	Oasis Sanitary Landfill
Riverside	Desert Center Landfill
Riverside	Blythe Sanitary Landfill
Riverside	Mecca Landfill II
Riverside	El Sobrante Landfill
Riverside	Philadelphia Recycling Mine
San Bernardino	California Street Landfill
San Bernardino	Oro Grande Kiln Waste Dust Dump
San Bernardino	Victorville Sanitary Landfill
San Bernardino	Barstow Sanitary Landfill
San Bernardino	Mid-Valley Sanitary Landfill

² California Department of Resources Recycling and Recovery (CalRecycle). *Permitting Landfills and Disposal Sites*. Available online at: <https://www.calrecycle.ca.gov/swfacilities/permitting/facilitytype/landfill#Definitions>, accessed January 14, 2019.

County	Name
San Bernardino	Landers Sanitary Landfill
San Bernardino	USMC - 29 Palms Disposal Facility
San Bernardino	Fort Irwin Sanitary Landfill
San Bernardino	Mitsubishi Cement Plant Cushenbury L.F.
San Bernardino	San Timoteo Sanitary Landfill
Ventura	Toland Road Landfill
Ventura	Simi Valley Landfill & Recycling Center
Total	40

Source: CalRecycle. 2019. SWIS Facility/ Site Search. Available online at: <https://www2.calrecycle.ca.gov/SWFacilities/Directory/>, accessed September 5, 2019.

Transfer Stations

Similar to the landfills, transfer stations accept trash for disposal. There are six county operated transfer stations. These stations accept waste of various types including general refuse and wood and green waste depending on size with flat and volume rates applying. These facilities collect material that is then "transferred" to be recycled or to the nearest landfill site. While not as all-inclusive as a landfill, transfer stations provide a broad collection opportunity for local residents.

Table 3.19.1-3, Active Transfer Stations by SCAG County, identifies active transfer stations within the region.

**Table 3.19.1-3
Active Transfer Stations by SCAG County**

County	Number of Active Transfer Stations
Imperial	5
Los Angeles	141
Orange	56
Riverside	49
San Bernardino	36
Ventura	11
Total	298

Source: CalRecycle. 2018. SWIS Facility/ Site Search. Available online at: <https://www2.calrecycle.ca.gov/SWFacilities/Directory/>, accessed January 14, 2018.

Waste Diversion and Recycling

The California Integrated Waste Management Act of 1989 (Chapter 1095, Statutes of 1989) requires every city and county, as part of the Countywide Integrated Waste Management Plan, to prepare a Source Reduction and Recycling Element that identifies how each jurisdiction would meet the mandatory state waste diversion goals of 50 percent of all solid waste through source reduction, recycling, and composting activities. The 50 percent diversion requirement is measured in terms of per-capita disposal expressed as pounds per person per day. CalRecycle calculates per-capita disposal for all counties and jurisdictions to monitor the success of program implementation, actual recycling, and other diversion programs.³

3.19.1.2 REGULATORY FRAMEWORK

3.19.1.2.1 Federal

Resource Conservation and Recovery Act of 1976

Subtitle D of the Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC Section 6901 *et seq.*), focuses on state and local governments as the primary planning, regulating, and implementing entities for the management of non-hazardous solid waste, such as household garbage and nonhazardous industrial solid waste.⁴ To promote the use of safer units for solid waste disposal, Subtitle D provides regulations for the generation, transportation, and treatment, storage, or disposal of hazardous wastes. EPA developed federal criteria for the proper design and operation of municipal solid waste landfills and other solid waste disposal facilities, but state and local governments are the primary planning, permitting, regulating, implementing, and enforcement agencies for management and disposal subject to approval by EPA.⁵ EPA approved the State of California's program, a joint effort of the CIWMB, SWRCB, RWQCBs, and LEAs, on October 7, 1993.

³ CalRecycle. 2018. *Goal Measurement*. November. Available online at: <https://www.calrecycle.ca.gov/LGCentral/GoalMeasure/>, accessed January 14, 2018.

⁴ U.S. Environmental Protection Agency. 2019. *Summary of the Resource Conservation and Recovery Act*. Available online at: <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>, accessed August 28, 2019.

⁵ U.S. Environmental Protection Agency. 2019. *Non-hazardous Waste*. Available online at: <https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations#nonhaz>, accessed August 28, 2019.

3.19.1.2.2 State

California Integrated Waste Management Act

As many of the landfills in the state are approaching capacity and the siting of new landfills becomes increasingly difficult, the need for source reduction, recycling, and composting has become readily apparent. In response to this increasing solid waste problem, in September 1989 the state assembly passed Assembly Bill 939, known as the California Integrated Waste Management Act. This statute emphasizes conservation of natural resources through the reduction, recycling and reuse of solid waste. Assembly Bill 939 required cities and counties in the state to divert 25 percent of their solid waste stream from landfills by 1995 and 50 percent by year 2000, or face potential fines of millions of dollars per year. In 2008, the California Integrated Waste Management Act also requires that all cities conduct a Solid Waste Generation Study and prepare a Source Reduction Recycling Element.

AB 939 established CalRecycle. The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed. All jurisdictions were required to meet diversion goals of 25 percent by 1995 and 50 percent by the year 2000. A disposal reporting system was established with CalRecycle oversight, facility and program planning was required, and cities and counties began to address waste problems.⁶

AB 341 (Chapter 476, Statutes of 2011) established a statewide goal to reduce, recycle, or compost at least 75 percent of solid waste by 2020. AB 341 also requires local jurisdictions to implement commercial recycling programs to divert recyclable material away from landfills and required commercial generators and multi-family residences to arrange for recycling services starting in 2012.⁷

AB 2020 The California Bottle Bill

AB 2020 (Public Resources Code Section 14500 *et seq.*) took effect in 1987 as litter prevention legislation. At present, the minimum refund value established for each type of eligible beverage container is 5 cents for each container under 24 ounces and 10 cents for each container 24 ounces or greater.⁸

⁶ CalRecycle. 2018. *History of California Solid Waste Law, 1985-1989*. Available online at: <https://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989>, accessed August 28, 2019.

⁷ CalRecycle. 2019. *Mandatory Commercial Recycling*. Available online at: <https://www.calrecycle.ca.gov/recycle/commercial>, accessed August 28, 2019.

⁸ California Legislature. 2017. *An Overview of California's Beverage Container Recycling (Bottle Bill) Program*.

SB 20 Electronic Waste “E-Waste” Recycling

SB 20 (Public Resources Code Section 42460 *et seq.*) was signed in September of 2003; it establishes a system to recycle computers, TVs, and other video display devices (known as electronic waste) when they reach their end-of-life. Fees are collected from consumers at point of purchase to fund recycling programs.⁹

AB 2901 – Cell Phone Recycling

AB 2901 Public Resources Code Section 42490 *et seq.* was signed into law on September 29, 2004. It requires all cell phone retailers to take back used cell phones for recycling at no charge to the customer.¹⁰

AB 2449 and SB 270 - Plastic Bag Recycling

Adopted in 2006, AB 2449 (Chapter 845, Statutes of 2006) requires all California grocery stores to take back and recycle plastic grocery bags. The bill also requires retailers to provide consumers with a bag reuse opportunity by providing reusable bags which can be purchased and used in lieu of disposable ones.¹¹

Many cities and counties have adopted plastic bag ordinances. SB 270 of 2014 (Chapter 850, Statutes of 2014) established a statewide prohibition on the sale or distribution of single-use carryout plastic bags in grocery stores and pharmacies, convenience food stores, and food marts. Retailers must charge customers at least 10 cents to buy a recycled paper bag or reusable grocery bag.¹² A referendum to repeal this law failed in the November 2016 election.

Solid Waste: Diversion Rule (AB 341)

Under commercial recycling law (Chapter 476, Statutes of 2011), Assembly Bill (AB) 341, directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The final regulation was approved by the Office of Administrative Law on May 7, 2012. AB 341 declared a policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.¹³

⁹ CalRecycle. 2019. *Electronic Waste Recycling Act of 2003*. Available online at: <https://www.calrecycle.ca.gov/electronics/act2003>, accessed August 28, 2019.

¹⁰ California Legislative Information. *Assembly Bill No. 2901*.

¹¹ California Legislative Information. *Assembly Bill No. 2449*.

¹² California Legislative Information. *Senate Bill No. 270*.

¹³ California Legislative Information. *Assembly Bill No. 341*.

Assembly Bill 2675

Adopted in 2014, AB 2675 (Chapter 617, Statutes of 2014) requires each state agency to ensure that at least 75% of reportable purchases are recycled products on and after January 1, 2020 with exception to paint, antifreeze, and tires.¹⁴

Assembly Bill 1045

Adopted in 2015, AB 1045 (Chapter 596, Statutes of 2015) requires the California Environmental Protection Agency (Cal EPA) in coordination with CalRecycle, the State Water Resources Control Board, CARB, and the Department of Food and Agriculture to develop and implement policies to aid in diverting organic waste from landfills with the goal of reducing at least 5 million metric tons of GHG emissions per year.¹⁵

Senate Bill 1383

Adopted in 2016, SB 1383 (Chapter 395, Statutes of 2016) requires the California Air Resources Board (CARB) to approve and implement a comprehensive strategy to reduce short-living GHG pollutants in organic waste landfills to achieve a 40% reduction in methane, 40% reduction in hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon by 50% below 2013 levels by 2030. SB 1383 also requires CARB, in consultation with the Department of Food and Agriculture, to adopt regulations to reduce methane emissions from livestock and dairy manure management operations.¹⁶

In response to SB 1383, CalRecycle developed the Short-Lived Climate Pollutants: Organic Waste Reductions strategy, which proposes a series of strategies and requirements to reduce methane emissions from organic waste. Strategies include maintaining a list of food recovery organizations, public outreach, and specific bin requirements.¹⁷

Lead-Acid Battery Recycling Act of 2016 (AB 2153)

Adopted in 2016, AB 2153 (Chapter 666, Statutes of 2016) updates the current law regarding the disposing of a lead-acid battery and creates numerous requirements related to lead-acid batteries. Some of these requirements include: starting April 2017, a \$1 fee on both consumers and manufacturers of lead-acid

¹⁴ California Legislative Information. 2014. *Assembly Bill No. 2675*.

¹⁵ California Legislative Information. 2015. *Assembly Bill No. 1045*.

¹⁶ California Legislative Information. 2016. *Senate Bill No. 1383*.

¹⁷ CalRecycle. 2019. *Short-Lived Climate Pollutants (SLCP): Organic Waste Reductions*. Available online at: [https://www.cacities.org/Resources-Documents/Policy-Advocacy-Section/Regulations/PropTextJune2019-\(1\).aspx](https://www.cacities.org/Resources-Documents/Policy-Advocacy-Section/Regulations/PropTextJune2019-(1).aspx), accessed October 31, 2019.

batteries; 2022, the fee to consumers will increase to \$2 and the fee to manufacturers will be eliminated; creates the Lead-Acid Battery Clean-Up Fund; and require dealers to charge consumers a refundable deposit for new lead-acid batteries.¹⁸

Assembly Bill 1250

Adopted in 2016, AB 1250 (Chapter 861, Statutes of 2016) requires plastic beverage containers subject to the California Redemption Value to report to CalRecycle the amount of virgin plastic and postconsumer recycled plastic used by the manufacturer for plastic CRV-eligible beverages sold within the state.¹⁹

Title 14, California Code of Regulations, Division 7

CalRecycle regulations pertaining to nonhazardous waste management in California include minimum standards for solid waste handling and disposal; regulatory requirements for composting operations; standards for handling and disposal of asbestos containing waste; resource conservation programs; enforcement of solid waste standards and administration of solid waste facility permits; permitting of waste tire facilities and waste tire hauler registration; special waste standards; used oil recycling program; electronic waste recovery and recycling; planning guidelines and procedures for preparing, revising, and amending countywide IWMP; and solid waste cleanup program.²⁰

Title 27, California Code of Regulations, Environmental Protection, Division 2, Solid Waste

CalRecycle and the SWRCB jointly issue regulations pertaining to waste disposal on land, including criteria for all waste management units, facilities and disposal sites; documentation and reporting; enforcement, financial assurance; and special treatment, storage, and disposal units.²¹

2016 California Green Building Standard Code

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. The purpose of this code is to improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of

¹⁸ California Legislative Information. 2016. *Assembly Bill No. 2153*.

¹⁹ CalRecycle. *History of California Solid Waste Law, 2015-2019*.

²⁰ California Code of Regulations. *Title 14. Natural Resources – Division 7*.

²¹ California Code of Regulations. 2019. *Title 27 Environmental Protection, Division 2, Solid Waste*

building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices including recycling of construction (diversion of 50 percent) and other waste streams.²²

The California Universal Waste Law

Special laws and regulations pertain to disposal of universal waste. (22 Cal. Code Regs. § 66260 *et seq.*) Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices, that contain mercury, lead, cadmium, copper, and other substances hazardous to humans and the environment. Universal waste cannot be disposed in solid waste landfills. Rather, universal wastes can be recycled. Recycling requirements are less stringent than those of other hazardous wastes to encourage recycling and recovery of valuable metals.

California Solid Waste Reuse and Recycling Act

The California Solid Waste Reuse and Recycling Act of 1991 (Pub. Res. Code §§ 42900-42901) was enacted to assist local jurisdictions with accomplishing the goals of AB 939. In accordance with AB 2176, any development project that has submitted an application for a building permit must include adequate, accessible areas for the collection and loading of recyclable materials. Furthermore, the areas to be utilized must be adequate in capacity, number, and distribution to serve the proposed project. Moreover, the collection areas are to be located as close to existing exterior refuse collection areas as possible.²³

3.19.1.2.3 Local

Countywide Integrated Waste Management Plan

Counties are required to prepare and submit to CalRecycle an integrated waste management plan which includes all Source Reduction and Recycling Element (SRREs), all Household Hazardous Waste Element (HHWEs), a Countywide Siting Element (CSE), all Non-Disposal Facility Elements (NDFEs), all applicable Regional SRREs, HHWEs. Public Resources Code Section 41751 requires that a countywide integrated waste management plan include a summary of significant waste management problems facing the county or city. The plan is required to provide an overview of the specific steps that will be taken by local agencies, acting independently and in concert, to achieve the purposes of this division. The plan is required to contain a statement of the goals and objectives set forth by the countywide task force.²⁴

²² California Building Standards Commission. 2017. *2016 California Green Building Standards Code*,

²³ California Legislative Information. *Article 1. Short Title and Findings and Declarations [42900-42901]*.

²⁴ California Legislative Information. *Article 1. Plan Preparation [41750-41751], Section 41751*.

Source Reduction and Recycling Element

The SRRE consists of the following components: waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste and integration. Each city and county is required to prepare, adopt, and submit to the California Department of Resources Recycling and Recovery (CalRecycle) an SRRE, which includes a program for management of solid waste generated within the respective local jurisdiction. The SRREs must include an implementation schedule for the proposed implementation of source reduction, recycling, and composting programs. In addition, the plan identifies the amount of landfill and transformation capacity that will be needed for solid waste which cannot be reduced, recycled, or composted.²⁵

Household Hazardous Waste Element

Cities and counties are required to prepare, adopt, and submit to CalRecycle, a HHWE that identifies a program for the safe collection, recycling, treatment, and disposal of hazardous wastes that are generated by households. The HHWE specifies how household hazardous wastes generated by households within the jurisdiction must be collected, treated, and disposed of.²⁶

Non-Disposal Facility Element (NDFE)

Cities and counties are required to prepare, adopt and submit to CalRecycle, an NDFE that includes a description of new facilities and expansion of existing facilities, and all solid waste facility expansions (except disposal and transformation facilities) that recover for reuse at least 5 percent of the total volume. The NDFE are to be consistent with the implementation of a local jurisdiction's SRRE. Each jurisdiction must also describe transfer stations located within and outside of the jurisdiction, which recover less than 5 percent of the material received.²⁷

Countywide Siting Element (CSE)

Counties are required to prepare a CSE that describes areas that may be used for developing new disposal facilities. The element also provides an estimate of the total permitted disposal capacity needed

²⁵ CalRecycle. 2018. *Source Reduction and Recycling Element Adequacy*. Available online at: <https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/SRREAdq/>, accessed August 28, 2019.

²⁶ CalRecycle. 2018. *Household Hazardous Waste Element (HHWE) Adequacy*. Available online at: <https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/HWWEAdq/>, accessed August 28, 2019.

²⁷ CalRecycle. 2018. *Nondisposal Facility Element Adequacy*. Available online at: <https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/NDFEAdq/>, accessed August 28, 2019.

for a 15-year period if counties determine that their existing disposal capacity will be exhausted within 15 years or if additional capacity is desired (PRC Sections 41700-41721.5).²⁸

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including solid waste services. For further guidance regarding solid waste, some jurisdictions also produce an Integrated Waste Management Plan.

3.19.1.3 ENVIRONMENTAL IMPACTS

3.19.1.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts to utilities if the Plan would:

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals;
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.19.1.3.2 Methodology

The methodology for determining the significance of impacts utilities and service systems compares existing conditions to the expected future use of landfills with the Plan. Factors such as existing capacity and expected demand (based on population and land use patterns) are reviewed at the regional level. The criteria above were applied to compare current conditions to future 2045 Plan conditions.

Implementation of Connect SoCal would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regard to solid waste, the Plan's potential to exceed capacity of local infrastructure as well as compliance with applicable statutes and regulations were analyzed to determine whether or not there will be a significant impact.

²⁸ CalRecycle. 2018. *Countywide Siting Element Adequacy*. Available online at: <https://www.calrecycle.ca.gov/LGCentral/Library/Policy/CIWMPEnforce/Part1/CSEAdq/>, accessed August 28, 2019.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in **Section 1.0 Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.19.1.3.3 Impacts and Mitigation Measures

Impact USSW-1 **Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals**

Impact USSW-2 **Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.**

Significant and Unavoidable – Mitigation Required.

Many of the transportation projects within the Plan have the potential to generate a substantial amount of solid waste during construction through grading and excavation activities, as well as debris resulting from removal of structures. Construction of development projects anticipated to occur during implementation of the Plan, would generate similar debris. Construction debris could be recycled or used as fill at other projects (clean dirt) or transported to the nearest landfill site and disposed of appropriately.

Although there are 40 landfills that serve the SCAG region (**Table 3.19.1-2, Active Solid Waste Landfills by SCAG County**), the lifetime of many of these landfills does not extend out 25 years. The total population is expected to grow by approximately 3.2 million across the SCAG region by 2045 resulting in substantial generation of solid waste (**Table 3.14-8, 2019-2045 Population, Households, and Employment Projections in the SCAG Region**). CalRecycle estimates that the average resident in California disposes of 5.2 pounds of trash per day and the average employee disposes of 11.9 pounds of trash per day, as of 2017. From 1989 to 2012, solid waste generation per employee and resident in California was reduced by approximately half in large part due to compliance with AB 939.²⁹ AB 341 requires 75 percent diversion

²⁹ CalRecycle. 2019. California Statewide per Resident, per Employee, and Total Disposed Since 1989. <http://www.calrecycle.ca.gov/Igcentral/goalmeasure/disposalrate/graphs/disposal.htm>, accessed September 5, 2019.

by 2020 as compared to 2000.³⁰ Because 2017 solid waste generation already reflects some reductions from AB 341 (which was implemented in 2012), an 18 percent reduction from the 2017 number was assumed for future years. This equates to approximately 4.2 pounds of trash per day for residences and 9.7 pounds of trash per day for employees in 2045. Because people both live and work in the region, calculating waste for total residents and total employees likely overestimates waste generation.

These solid waste generation rates were used to calculate the solid waste generated in 2045. As discussed above, solid waste generation per capita had been decreasing steadily each year, until 2013 when they began to rise again. Despite recent increases, it is expected that solid waste generation will return to a decreasing trend in the future due to sustainable policies and practices. As shown in **Table 3.19.1-4, Solid Waste Generated in the SCAG Region**, assuming solid waste generation for both residents and employees according to the factors discussed above, the waste generated per day in the SCAG region under the Plan in 2045 could be up to 96,001 tons per day as compared to 89,014 tons per day in 2019.³¹ However, as noted above, because the calculation is for residents and employees likely there is some double counting in the calculated numbers shown in the table.

³⁰ AB 341 requires a 75% reduction by 2020.

³¹ In order to estimate the amount of waste generated by residents and employees in 2019 and 2045, it was assumed that an even percentage of waste has been reduced from 2012 to 2020 to meet the AB 341 requirement. Therefore, each year represents a reduction of 6.25% ($50\% / 8 \text{ years} = 6.25\%/year$). Based on this assumption, 2017's estimated waste stream will have already met 31.25% of the required reduction ($6.25\%/year \times 5 \text{ years} = 31.25\%$). From 2017 to 2019, an additional 12.5% of waste would be reduced ($6.25\%/year \times 2 \text{ years} = 12.5\%$). As a result, 2017 residential and employment per capita waste generation is reduced by approximately 12.5%, resulting in a 2019 residential waste generation of 4.55 lbs/day and an employment waste generation of 10.4 lbs/day. From 2019 to 2020, an additional 6.25% of waste would be reduced (18.75% reduction from 2017), resulting in a 2020 residential waste generation of 4.2 lbs/day and an employment waste generation of 9.7 lbs/day.

**Table 3.19.1-4
Solid Waste Generated in the SCAG Region**

Year	Number of People	Solid Waste Generation Rate (lbs/day) ^a	Solid Waste Generated (tons/day)
Population			
2019	19,339,700	4.55	43,998
2045	22,507,200	4.2	47,265
Employment			
2019	8,657,000	10.4	45,016
2045	10,048,700	9.7	48,736
Population and Employment			
2019 Total			89,014
2045 Total			96,001

^a California Statewide per Resident, per Employee, and Total Disposed 1989-2017.

<http://www.calrecycle.ca.gov/lgcentral/goalmeasure/disposalrate/graphs/disposal.htm>, accessed September 5, 2019

Assumes an even reduction in solid waste from 2012 to 2020. This table overestimates waste generated as people both live and work within the region.

Source: SCAG modeling, 2019; Impact Sciences, 2019.

The maximum daily disposal for the 40 landfills in the SCAG region is calculated to be 152,155 tons/day as of 2019. However, only 18 of the landfills are currently anticipated to be operational in 2045 with a combined daily disposal of 61,459 tons/day.³² Therefore, the anticipated solid waste generated could exceed the projected landfill capacity resulting in a significant impact. Mitigation is required.

Plan projects would be required to comply with federal, state, and local statutes and regulations related to solid waste, including county and city general plans. Local jurisdictions also have goals and policies for recycling and diversion of solid waste to ensure compliance with the California Integrated Waste Management Act (AB 939), the California Solid Waste Reuse and Recycling Act, and the Solid Waste Diversion Rule (AB 341). Local governments submit an annual report to CalRecycle on the implementation of waste diversion plans to comply with their respective per capita disposal targets. CalRecycle reviews each local government's progress in implementing its unique diversion program and progress in sustaining or achieving compliance. CalRecycle may refer some local governments for a compliance evaluation review, although the number of local governments referred is generally less than 1 percent. If a more thorough analysis reveals a jurisdiction is not meeting the "good faith" standard for implementing its diversion programs or for reaching per capita disposal targets, CalRecycle will issue a

³² CalRecycle. 2019. SWIS Facility/Site Search. Available online at: <https://www2.calrecycle.ca.gov/swfacilities/Directory/13-AA-0004/Index>, accessed September 5, 2019.

compliance order. If the jurisdiction fails to fulfill its implementation plan to correct the program deficiencies, then the jurisdiction will be subject to penalties.

There are also multiple additional laws aimed at reducing solid waste in California including, AB 1826 which sought to greatly reduce the amount of organic material deposited into landfills by further mandating waste recycling services for organic material. At the beginning of 2016, local jurisdictions were required under AB 1826 to implement an organic waste recycling program and measure and monitor their efforts. Also, Section 5.408 “Construction Waste Reduction, Disposal and Recycling” of the 2016 California Green Building Standards code (CalGreen) requires all new construction and demolition projects to develop a Construction Waste Management Plan which recycles or salvages a minimum of 65% of non-hazardous construction and demolition waste.

Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would be required to comply with AB 341, as well as the additional laws cited above which would further reduce anticipated solid waste generation. However, due to the volume of solid waste debris expected to be generated with implementation of the Plan and lack of identified landfill capacity, impacts would be significant requiring mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

SMM USSW-1: During the planning, design, and project-level CEQA review process for individual development projects, SCAG shall coordinate with waste management agencies and the appropriate local and regional jurisdictions to facilitate the development of measures and to encourage diversion of solid waste such as recycling and composting programs, as needed. This includes discouraging siting of new landfills unless all other waste reduction and prevention actions have been fully explored to minimize impacts to neighborhoods.

SMM USSW-2: SCAG shall coordinate with waste management agencies, and the appropriate local and regional jurisdictions, measures to facilitate and encourage diversion of solid waste such as recycling and composting programs.

Project Level Mitigation Measures

PMM USSW-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce the generation of solid waste, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

Integrate green building measures consistent with CALGreen (California Building Code Title 24) into project design including, but not limited to the following:

- a) Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.
- b) Inclusion of a waste management plan that promotes maximum C&D diversion.
- c) Source reduction through (1) use of materials that are more durable and easier to repair and maintain, (2) design to generate less scrap material through dimensional planning, (3) increased recycled content, (4) use of reclaimed materials, and (5) use of structural materials in a dual role as finish material (e.g., stained concrete flooring, unfinished ceilings, etc.).
- d) Reuse of existing structure and shell in renovation projects.
- e) Development of indoor recycling program and space.
- f) Discourage the siting of new landfills unless all other waste reduction and prevention actions have been fully explored. If landfill siting or expansion is necessary, site landfills with an adequate landfill-owned, undeveloped land buffer to minimize the potential adverse impacts of the landfill in neighboring communities.
- g) Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and Connect SoCal policies can and should be required.

- h) Encourage waste reduction goals and practices and look for opportunities for voluntary actions to exceed the 80 percent waste diversion target.
- i) Encourage the development of local markets for waste prevention, reduction, and recycling practices by supporting recycled content and green procurement policies, as well as other waste prevention, reduction and recycling practices.
- j) Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.
- k) Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.
- l) Integrate reuse and recycling into residential industrial, institutional and commercial projects.
- m) Provide education and publicity about reducing waste and available recycling services.
- n) Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to solid waste exceeding the capacity of local

infrastructure and consistency with plans could be significant and unavoidable even with implementation of mitigation.

3.19.1.4 SOURCES

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3.19.2 WASTEWATER

3.19.2.1 EXISTING CONDITIONS

Wastewater is defined as water that contains wastes from residential, commercial, and industrial processes. Sewage, gray water, and industrially polluted discharges can all be categorized as wastewater. Within the SCAG region, wastewater is generally conveyed through the storm drain and sanitary sewer systems.

3.19.2.1.1 Wastewater Treatment Facilities

Wastewater treatment is generally performed in three stages: primary treatment, secondary treatment, and tertiary treatment. During primary treatment, materials sink to the bottom of tanks and then microbes eat the organic material and settle out in the secondary treatment tanks. Tertiary treatment occurs last, in which remaining pollutants are filtered out via sand and coal. Along with the additions of disinfectant chemicals like chlorine and careful testing and monitoring, this process treats water to an acceptable level to be returned into natural water bodies or recycled for irrigation, industrial, and agricultural uses. More recently, advanced treatment techniques have achieved level of cleanliness that allows highly purified recycled water to recharge underground aquifers.¹

A majority of wastewater within the SCAG region is treated by one of the 67 major wastewater treatment facilities in the area. Such facilities are often located in densely populated areas and in close proximity to bodies of water for simple discharge of treated water. Within each SCAG county, various smaller municipal wastewater systems and agencies manage wastewater from cities on a smaller scale, and private on-site sewage disposal systems are also available to serve wastewater generators without access to a municipal system. **Table 3.19.2-1, Major Wastewater Treatment Facilities in the SCAG Region**, lists the 67 large-scale facilities managing wastewater within the region, which have a combined design flow of approximately 3,088 millions of gallons per day (mgd).

¹ Los Angeles County Sanitation Districts (LACSD). 2018. Wastewater Treatment and Water Reclamation. Available online at: <https://www.lacsd.org/wastewater/wwfacilities/moresanj.asp>, accessed January 14, 2019.

**Table 3.19.2-1
Major Wastewater Treatment Facilities in the SCAG Region**

County	Design Flow (mgd)
Imperial	22.21
Brawley City WWTP	6
Calexico City WWTP	4.3
Calipatria City WWTP	1.7
El Centro City WWTP	8
Herber PUD WWTP	0.81
Imperial City WWTP	1.4
Los Angeles	1,250.1
Avalon WWTF	1.2
Civic Center Water Treatment Facility	70
Burbank WWRP	12.5
Donald C. Tillman WWRP	80
Edward C. Little Water Recycling Plant	5.2
Groundwater Reliability Improvement Project (WDR GRIP/ AWTF)	--
Hyperion WWTP	450
Joint Water Pollution Control Plant, Carson	400
Juanita Millender-McDonald Carson Regional Water Recycling Plant	1.2
Long Beach WRP	25
Los Angeles-Glendale WWRP	20
Los Coyotes WRP	37.5
Newhall Ranch WRP	2
Pomona Water Reclamation Plant	15
San Jose Creek Water Reclamation Plant	62.5
Saugus Water Reclamation Plant	6.5
Tapia WRF	12
Terminal Island Water Reclamation Plant	30
Valencia WRP	4.5
Whittier Narrows Water Reclamation Plant, El Monte	15
Orange	1,131.12
City of San Clemente WRP	38.78
El Toro WD WRP	34.37
Irvine Desalter Project Shallow GW Unit	34.37
IRWD Los Alisos WRP	34.37
Latham WWP	38.78
Los Alisos WD WWTP	33.5
Michelson WWRF	33.5
OCSD Plant 1	332

County	Design Flow (mgd)
OCSD Plant 2	332
SMWD Oso Creek WRP	38.78
SMWD-Chiquita WRP	38.78
SOCWA Aliso Creek Ocean Outfall	34.37
SOCWA Coastal TP	34.37
SOCWA Regional TP	34.37
SOCWA San Juan Creek Ocean Outfall	38.78
Riverside	128.4
Beaumont WWTP No. 1	4
Coachella SD WWTP	2.4
Coachella Valley WD WWTP	7
Corona WWRF No. 1	11.5
Corona WWRF No. 3	1
EVMWD Regional WWRF	8
Riverside City WWRF	46
Temescal Creek Outfall	26
Valley SD WWTP	8.5
WRCRWA Regional WWRF	14
San Bernardino	421.65
Big Bear WWRF	3.2
Colton WRF	0
Colton/San Bernardino STP, RIX	40
Henry N. Wochholz WWRF	8.0
IEUA Carbon Canyon WWRF	85
IEUA Regional Plant No. 1	85
IEUA Regional Plant No. 4	85
IEUA Regional Plant No. 5	85
Lytle Creek North WWTP	1.75
Margaret H Chandler WWRF	4.5
Rialto WWRF	11.7
Victor Valley Wastewater Reclamation Authority WTP	12.5
Ventura	90.09
Camarillo WRP	7.25
Camrosa Water Reclamation Facility	2.25
Fillmore WWTP and Wastewater Recycling Plan	1.33
Hill Canyon WWTP	14
Moorpark WWTP	1.5
Ojai Valley WWTP	3
Oxnard Wastewater Treatment Plant	31.7
Santa Paula WWRP	2.55
Simi Valley WQCP	12.5

County	Design Flow (mgd)
Ventura WRF	14
Total	3,043.57

Source:

Cal EPA. 2015. *Regulated Facility Report*. Available online at:

<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=2281746&inCommand=drilldown&reportName=RegulatedFacilityDetail&program=NPDES&majorminor=Major>, accessed September 6, 2019.

City of Malibu. *Council Agenda Report, City of Malibu Assessment District No. 2015-1 (Civic Center Wastewater Treatment Facility – Phase One)*. Available online at: <https://www.malibucity.org/AgendaCenter/ViewFile/Item/2019?fileID=2386>, accessed September 6, 2019.

Wastewater Treatment Requirements

Created by the State Legislature in 1967, the SWRCB has jurisdiction throughout California, where it protects water quality by setting statewide policies.² The SCAG region incorporates five of the nine Regional Water Boards in the State:

- Region 4—Los Angeles Regional Water Quality Control Board: Los Angeles and Ventura Counties (and small portions of Kern and Santa Barbara Counties).
- Region 6—Lahontan Regional Water Quality Control Board: San Bernardino and Los Angeles (N/E corner) counties.
- Region 7—Colorado River Regional Water Quality Control Board: Imperial, San Bernardino, Riverside, and San Diego Counties.
- Region 8—Santa Ana Regional Water Quality Control Board: Orange, Riverside, and San Bernardino Counties.
- Region 9—San Diego Regional Water Quality Control Board: San Diego, Imperial, and Riverside Counties.

3.19.2.1.2 Storm Water Drainage Facilities

Each city and county within the SCAG region maintains a storm drain system. The systems vary by age, size, and type depending on the municipality, and may consist of day pipe, iron/steel pipe, very old brick collector sewers, and reinforced concrete pipe facilities.

² California Water Boards. *Water Board Structure*. Available online at: https://www.waterboards.ca.gov/lahontan/about_us/water_boards_structure.html, accessed August 23, 2019.

California Water Board Districts 4, 6, 7, 8, and 9 are all within the SCAG region and manage their own storm water drainage facilities, utilizing NPDES program permits. Under a NPDES permit, operators must develop a storm water management program to prevent polluted storm water run-off from entering Municipal Separate Storm Sewer Systems (MS4s), which often discharge to local water bodies.

In April 2018, the State Water Resources Control Board released a storm water strategy called the Strategy to Optimize Resource Management of Storm Water, or STORMS. The report focuses on enhancing urban run-off capture and use by identifying barriers, providing incentives, and increasing public engagement. The STORMS report found that urban run-off can be a viable source of water and that hybrid strategies combining green and gray infrastructure will be imperative for future urban water management.³

3.19.2.2 REGULATORY FRAMEWORK

3.19.2.2.1 Federal

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) (33 USC Sections 1251 *et seq.*) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by the U.S. Environmental Protection Agency (USEPA).⁴

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency (US EPA). For point source discharges to surface water, the Clean Water Act authorizes the U.S.EPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean

3 California State Water Resources Control Board. 2018. *Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy, STORMS)*. April. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/, accessed January 15, 2019.

4 U.S. Environmental Protection Agency. 2002. *Federal Water Pollution Control Act*. Available online at: <https://www.epa.gov/sites/production/files/2017-08/documents/federal-water-pollution-control-act-508full.pdf>, accessed August 23, 2019.

Water Act also establishes a loan program—the State Revolving Fund—for the implementation of water quality improvement projects.

MS4 Permit Guidance Provision C.3

On May 17, 1996, EPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s. MS4 permits include requirements for post-construction control of stormwater runoff in what is known as Provision C.3. The goal of Provision C.3 is for the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.⁵

3.19.2.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq.*), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program

⁵ Government Publishing Office. 1996. *Environmental Protection Agency 40 CFR Part 122*. Available online at: <https://www.govinfo.gov/content/pkg/FR-1996-08-09/pdf/96-20228.pdf>, accessed August 23, 2019.

guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, regional basin plans have been adopted by each of the Regional Water Boards and get updated as needed. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.⁶

California Ocean Plan

The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. The plan applies to point and nonpoint source discharges. Both the SWRCB and the six coastal RWQCBs implement and interpret the California Ocean Plan. The California Ocean Plan identifies the applicable beneficial uses of marine waters. These beneficial uses include preservation and enhancement of designated Areas of Special Biological Significance (ASBS), rare and endangered species, marine habitat, fish migration, fish

⁶ California State Water Resources Control Board. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 23, 2019.

spawning, shellfish harvesting, recreation, commercial and sport fishing, mariculture, industrial water supply, aesthetic enjoyment, and navigation.

The California Ocean Plan establishes a set of narrative and numerical water quality objectives to protect beneficial uses. These objectives are based on bacterial, physical, chemical, and biological characteristics as well as radioactivity. The water quality objectives in Table 1 (formerly Table B) of the California Ocean Plan apply to all receiving waters under the jurisdiction of the plan and are established for the protection of aquatic life and for the protection of human health from both carcinogens and noncarcinogens. Within Table 1 there are 21 objectives for protecting aquatic life, 20 for protecting human health from noncarcinogens, and 42 for protecting human health from exposure to carcinogens. The Ocean Plan also includes an implementation program for achieving water quality objectives. Effluent limitations are established for the protection of marine waters.⁷

Strategy to Optimize Resource Management of Storm Water (STORMS)

In April 2018, the California State Water Resources Control Board published the STORMS report to advance the ideology that storm water is a valuable resource. The report explores policies for collaborative watershed level storm water management and pollution prevention, obstacles to funding and barriers to development. It also describes the importance of integrating regulatory and non-regulatory interests and how raised awareness of the benefits of storm water management invokes participation and enthusiasm with regards to this little-explored resource.⁸

NPDES General Permits

Construction General Permit

The California Construction Stormwater Permit (Construction General Permit) 1 (also, known as Industrial General Permit), adopted by the State Water Resources Control Board (SWRCB), regulates construction activities that include clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. The Construction General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non-stormwater discharges and all discharges that contain a hazardous

⁷ California Water Boards. 2015. *California Ocean Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf, accessed August 27, 2019.

⁸ California State Water Resources Control Board. 2019. *Strategy to Optimize Resource Management of Stormwater*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/docs/storms_capture_use.pdf, accessed August 23, 2019.

substance in excess of reportable quantities established in Title 40, Sections 117.3 or 302.4 of the CFR, unless a separate National Pollution Discharge Elimination System (NPDES) permit has been issued to regulate those discharges. The Construction General Permit requires that all developers of land where construction activities will occur over more than 1 acre do the following:

- Complete a risk assessment to determine pollution prevention requirements pursuant to the three risk levels established in the General Permit;
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the US;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP), which specifies BMPs that will reduce pollution in stormwater discharges to the Best Available Technology Economically Achievable/ Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

To obtain coverage under the NPDES Construction General Permit, the Legally Responsible Person must electronically file all permit registration documents with the SWRCB before the start of construction. Permit registration documents must include:

- Notice of Intent,
- Risk Assessment,
- Site Map,
- SWPPP,
- Annual Fee, and
- Signed Certification Statement.

Typical BMPs contained in SWPPPs are designed to minimize erosion during construction, stabilize construction areas, control sediment, control pollutants from construction materials, and address post construction runoff quantity (volume) and quality (treatment). The SWPPP must also include a discussion of the program to inspect and maintain all BMPs.⁹

⁹ State Water Resources Control Board. *Construction General Permit Fact Sheet*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf, accessed August 27, 2019.

Industrial General Permit

The Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (Industrial General Permit or IGP) implements the federally required storm water regulations in California for storm water associated with industrial activities discharging to waters of the United States.¹⁰

Municipal Stormwater Program

The Municipal Storm Water Program regulates storm water discharges from municipal separate storm sewer systems (MS4s) throughout California. Pursuant to the Federal Water Pollution Control Act (Clean Water Act) section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The Municipal Storm Water Program manages the Phase I Permit Program (serving municipalities over 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the State of California Department of Transportation (Caltrans).¹¹

Caltrans is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, Caltrans' facilities, and related properties, and is subject to the permitting requirements of CWA Section 402(p). Caltrans' discharges consist of storm water and non-storm water discharges from state-owned rights-of-way.

Before July 1999, discharges from Caltrans' MS4 were regulated by individual NPDES permits issued by the RWQCBs. On July 15, 1999, the SWRCB issued a statewide permit (Order No. 99-06-DWQ) that regulated all discharges from Caltrans MS4s, maintenance facilities, and construction activities.¹² On September 19, 2012, Caltrans' permit was reissued (Order No. 2012-0011-DWQ), and it became effective on July 1, 2013.¹³

¹⁰ State Water Resources Control Board. Industrial Stormwater Program. See https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html, accessed August 27, 2019.

¹¹ State Water Resources Control Board. *Municipal Stormwater Program*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html, accessed October 31, 2019.

¹² Caltrans. *Stormwater & Water Pollution Control*. Available online at: <https://dot.ca.gov/programs/traffic-operations/ep/stormwater>, accessed August 27, 2019.

¹³ California State Water Resources Control Board. *Order No. 2012-0011-DWQ NPDES No. CAS000003 National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation*. Available online at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf, accessed August 27, 2019.

The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

Caltrans' Storm Water Management Plan (SWMP) describes the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. The SWMP was most recently updated in July of 2016.¹⁴

California Department of Transportation NPDES Permit

The California Department of Transportation (Caltrans) was originally issued a statewide NPDES permit (Order 99-06-DWQ) in 1999, which requires Caltrans to regulate nonpoint source discharge from its properties, facilities, and activities. The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create and annually update a stormwater management plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. SWMP requirements apply to discharges from Caltrans stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from:

¹⁴ Caltrans. 2016. *Statewide Stormwater Management Plan*. Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf, accessed August 27, 2019.

- maintenance and operation of state-owned highways, freeways, and roads;
- maintenance facilities;
- other facilities with activities that have the potential for discharging pollutants;
- permanent discharges from subsurface dewatering;
- temporary dewatering; and
- construction activities.

The discharges addressed by the SWMP flow through municipal stormwater conveyance systems or flow directly to surface water bodies in the state. These surface water bodies include creeks, rivers, reservoirs, lakes, wetlands, lagoons, estuaries, bays, and the Pacific Ocean and tributaries.

This SWMP applies to the oversight of outside agencies' or non-Caltrans entities' (third parties) activities performed within Caltrans' MS4 to ensure compliance with stormwater regulations. Non-Caltrans activities include highway construction and road improvement projects, as well as residential use and business operations on leased property.

The SWMP must be approved by the SWRCB and, as specified in the permit, it is an enforceable document. Compliance with the permit is measured by implementation of the SWMP. Caltrans' policies, manuals, and other guidance related to storm water are intended to facilitate implementation of the SWMP. Caltrans also requires all contractors to prepare and implement a program to control water pollution effectively during the construction of all projects. In lieu of the more recently adopted General Construction Permit as described above, Caltrans continues to modify its current policies and procedures to be consistent with the new permit.¹⁵

California Administrative Code, Title 22

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the

¹⁵ U.S. Environmental Protection Agency. *Program Evaluation Report Statewide NPDES Storm Water Permit for the State of California, Department of Transportation Properties, Facilities, and Activities (District 5) (Order No. 99-06-DWQ)*. Available online at: <https://www3.epa.gov/region9/water/npdes/pdf/ms4/ca/021108-caltrans-report.pdf>, accessed August 23, 2019.

proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan.¹⁶

3.19.2.2.3 Regional

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in Section 3.10, *Hydrology and Water Quality*.

Urban Water Management Plans

Under California Water Code Division 6, Part 2.6, Section 10610-10656, the Urban Water Management Planning Act (UWMPA) requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP).¹⁷ The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7.^{18, 19} There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.

3.19.2.2.4 Local

Utility Master Plans & Utility Capital Improvement Programs

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction.

¹⁶ Water Education Foundation. *Water Recycling and Title 22*. Available online at:

<https://www.watereducation.org/aquapedia/water-recycling-and-title-22>, accessed August 23, 2019.

¹⁷ California State Water Control Board. *California Water Code Division 6 Part 2.6. Urban Water Management Plan*.

Available online at: https://water.ca.gov/LegacyFiles/urbanwatermanagement/docs/water_code-10610-10656.pdf, accessed August 23, 2019.

¹⁸ California Department of Water Resources. *Urban Water Management Plans*. Available online at:

<https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans>, accessed August 23, 2019.

¹⁹ California Department of Water Resources. SB X7-7. Available online at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7>, accessed August 23, 2019.

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.2.3 ENVIRONMENTAL IMPACTS

3.19.2.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of Connect SoCal could result in significant adverse impacts with regards to wastewater if the Plan would result in any of the following:

- Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments

3.19.2.3.2 Methodology

The methodology for determining the significance of impacts to utilities and service systems, compares existing conditions to the expected future use of potable water supplies, wastewater, storm water facilities, and landfills with the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions. Consideration was given to existing capacity and expected growth as well as transportation projects.

Implementation of the Plan would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regards to wastewater, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demand will be used to determine the significance of the projects effects.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the

Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.19.2.3.3 Impacts and Mitigation Measures

Impact USWW-1 Require or result in the relocation or construction of new or expanded wastewater treatment or storm drainage facilities, the construction or relocation of which could cause significant environmental effects

Significant and Unavoidable – Mitigation Required.

Implementation of some transportation projects and anticipated growth under the Plan would involve construction of new storm water drainage facilities and may require construction of new or expanded wastewater treatment facilities.

Projects that increase impervious surface area, including expanding roadways, and new development may increase urban runoff. This would result in greater quantities of contaminants to receiving waters that may currently be impaired and would require the construction of new storm water drainage facilities or expansion of existing ones. Construction activities related or identified in the Plan could increase pollutant loads carried by storm water runoff. For example, road cut erosion can increase long-term siltation in local receiving waters. The Los Angeles Basin includes approximately 100,000 acres of transportation related impervious surfaces.²⁰ According to the USGS, there is an inverse relationship between water quality as well as flooding and impervious area.²¹ This relationship tends to become problematic when impervious surfaces within a watershed exceed 10 percent of land area. Where this percentage is greater than 25 percent, water quality is generally degraded and inhospitable for habitat or for recreation activities.²² In addition, many of the pollutants in urban runoff are attributable to

²⁰ Los Angeles Basin. *Stormwater Conservation Study*. Available online at: <https://www.usbr.gov/lc/socal/basinstudies/AppendixB.pdf>, accessed September 9, 2019.

²¹ USGS. *Impervious Surfaces and Flooding*. Available online at: https://www.usgs.gov/special-topic/water-science-school/science/impervious-surfaces-and-flooding?qt-science_center_objects=0#qt-science_center_objects, accessed September 9, 2019.

²² Center for Watershed Protection. 1988. *Rapid Watershed Planning Handbook – A Resource Guide for Urban Subwatershed Management*. Ellicott City, MD.

landscape irrigation, highway runoff, and illicit dumping. Highway runoff is a component of urban runoff contributing oil and grease, sediment, nutrients, heavy metals, and toxic substances.

The Plan would increase impervious surfaces in the SCAG region through a combination of transportation projects and development, resulting in construction or expansion of storm water drainage facilities. As shown in **Table 3.19.2-2, Existing Lane Miles by County**, and **Table 3.19.2-3, 2045 Plan Lane Miles by County**, the Plan would increase total lane miles in the region, with the most increase in San Bernardino County (from 14,871 to 17,067 lane miles). Among all facilities toll has the most increase in lane miles from 453 in 2016 to 1,463 lane miles in 2045 with the Plan.

**Table 3.19.2-2
Existing Lane Miles by County**

County	Freeway (Mixed- Flow)	Toll*	Truck	Expressway /Parkway	Principal Arterial	Minor Arterial	Collector	Freeway (HOV)	Ramp	Total (All Facilities)
Imperial	380	-	-	337	271	556	2,469	-	36	44,048
Los Angeles	4,604	83	17	8	8,380	8,983	6,933	483	908	30,398
Orange	1,327	334	16	4	3,589	2,776	1,008	252	374	9,680
Riverside	1,785	36	2	126	1,152	2,972	4,906	80	249	11,307
San Bernardino	2,558	-	5	97	1,753	3,900	6,121	114	323	14,871
Ventura	536	-	-	-	810	997	1,048	8	122	3,521
Total	11,189	453	41	571	15,955	20,184	22,484	935	2,012	73,824

Note:

*Toll includes truck and High-occupancy toll (HOT)

Source:

SCAG modeling, 2019.

**Table 3.19.2-3
2045 Plan Lane Miles by County**

County	Freeway (Mixed- Flow)	Toll*	Truck	Expressway/Parkway	Principal Arterial	Minor Arterial	Collector	Freeway (HOV)	Ramp	Total (All Facilities)
Imperial	417	-	-	323	316	595	2,462	-	38	4,152
Los Angeles	4,797	352	153	6	8,474	9,067	6,957	378	939	31,123
Orange	1,419	565	16	4	3,847	3,101	1,090	244	379	10,663
Riverside	1,863	267	13	122	1,512	3,600	5,705	45	363	13,490
San Bernardino	2,597	279	55	142	2,075	4,654	6,781	138	347	17,067
Ventura	568	-	-	-	860	1,007	1,059	60	122	3,676
Total	11,661	1,463	237	597	17,084	22,023	24,053	864	2,189	80,170

Note:

*Toll includes truck and High-occupancy toll (HOT)

Source: SCAG modeling, 2019. Connect SoCal: Highways & Arterials Appendix.

Municipal wastewater is related to water use. Most of the water that is not used in landscaping becomes wastewater. California residents used an estimated average 85 gallons of water per day in 2016.²³ However, water demand varies substantially by community and by land use type and therefore wastewater is anticipated to similarly vary substantially by community. The reuse and recycling of wastewater would reduce the amount of wastewater to be discharged to the ocean, although the total benefits from wastewater reduction would be limited.

Wastewater generation rates are closely tied to population growth. The total population is expected to grow by approximately 16 percent across the SCAG region by 2045, wastewater generation would proportionally increase by up to 16 percent (although this increase is likely to be unevenly spread across the region with some wastewater agencies may experience greater increases than others). In addition to increased demand for wastewater treatment facilities, increases in housing and population would increase wastewater flows in existing wastewater conveyance infrastructure (sewers). Individual development projects would either be accommodated by existing infrastructure, or project proponents and/or local jurisdictions would be required to make improvements to wastewater infrastructure (replacing sewers and upgrading wastewater treatment facilities). In less developed areas of the region,

²³ Legislative Analyst's Office. *Residential Water Use Trends and Implications for Conservation Policy*. Available online at: <https://lao.ca.gov/Publications/Report/3611>, accessed September 11, 2019.

new housing and employment developments could require additional wastewater infrastructure (new sewers and possibly new treatment facilities).

Due to anticipated transportation projects and anticipated growth under the Plan, construction of new storm water drainage or wastewater treatment facilities or expansion of existing facilities may be needed, thereby potentially resulting in a significant impact, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

SMM-USWW-1: SCAG shall work with local jurisdictions and wastewater agencies to encourage regional-scale planning for improved wastewater and stormwater management. Future impacts to wastewater and stormwater facilities shall be avoided to the extent practical and feasible through cooperative planning, information sharing, and comprehensive pollution control measure development within the SCAG region. This cooperative planning shall occur as part of current and existing coordination, an integral part of SCAG's ongoing regional planning efforts.

Project Level Mitigation Measures

See **PMM-HYD-1**.

PMM-USWW-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on utilities and service systems, particularly for construction of wastewater facilities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- During the design and CEQA review of individual future projects, implementing agencies and projects sponsors shall determine whether sufficient wastewater capacity exists for the proposed projects. There CEQA determinations must ensure that the proposed development can be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the

appropriate public service or utility shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project-level review as necessary to provide CEQA clearance for new facilities.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to wastewater and storm water facilities could be significant and unavoidable even with implementation of mitigation. 1

Impact USWW-2 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Significant and Unavoidable – Mitigation Required.

Implementation of the Plan could result in a determination by one or more of the wastewater treatment providers in the region that there is inadequate capacity to serve the future population demand in addition to the provider's existing commitments, resulting in a significant impact. Wastewater generation rates are closely tied to population growth, and the total population is expected to grow by approximately 3.2 million or 16 percent across the SCAG region by 2045 (although this increase is likely to be unevenly spread across the region with some wastewater agencies experiencing greater increases than others). Therefore, wastewater generation could increase by 16 percent as well. Implementation of transportation projects contained in the Plan as well as anticipated growth under the Plan may increase demand for wastewater treatment facilities. Development projects would either be accommodated by existing infrastructure, or project proponents and local jurisdictions would be required, to make improvements to wastewater infrastructure (sewers and treatment facilities). In less developed areas of the region, new housing and commercial developments could require additional wastewater infrastructure (new sewers and treatment facilities). The higher density development reflected in the Plan's land use strategies could also require construction of new and/or replacement wastewater infrastructure including sewers with greater conveyance capacity in urban and urbanizing areas. In

addition, additional wastewater entering the existing wastewater treatment facilities may overload the current capacity levels of some wastewater treatment facilities. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measures

See **SMM USWW-1, SMM HYD-1** through **SMM HYD-3**.

Project Level Mitigation Measure

See **PMM USWW-1**.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts with respect to wastewater treatment capacity could be significant and unavoidable even with implementation of mitigation.

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3.19.3 WATER SUPPLY

3.19.3.1 ENVIRONMENTAL SETTING

3.19.3.1.1 Water Supplies

California's water supply is a hotly debated topic, with limited water resources stretched tightly between the environment, agriculture, and residential uses. Severe weather patterns linked to climate change have exacerbated the water issue, resulting in record low snowpack in several recent years (although the 2018/2019 snowpack was high) and record high heat waves. Supply water includes natural, managed, and reclaimed water. Natural sources consist of surface water bodies like rivers and lake, and groundwater resources stored in underground aquifers. Manmade sources include run-off water that is captured, treated, and stored in reservoirs. Reclaimed water is wastewater, treated at a treatment plant and typically reused for uses like industrial operations and irrigation. As reclaimed water is often non-potable, it must be conveyed in a separate system to ensure no possibility of direct human consumption. Another source of potable freshwater that is being considered throughout regions of the world include desalination, which removes the dissolved salt in seawater.

Surface and groundwater within the SCAG region are insufficient to support the region's growing population. In the SCAG region, approximately three quarters of potable water comes from imported sources.¹ Restrictions on imported water as well as drought conditions have necessitated water conservation measures. These conservation measures have slightly lessened the use of potable water in many areas of the region. In addition, the demand for water is being partially fulfilled by the increasing use of reclaimed water for non-potable purposes such as greenbelt irrigation and industrial processing and servicing.

Counties within the SCAG region use groundwater and surface water to meet water demand. Integrated Regional Water Management Plans (IRWMPs) and Urban Water Management Plans (UWMPs), developed for cities and counties throughout the region, help guide water management and supply and demand projections. Water is imported by the Metropolitan Water District of Southern California (MWD) and the State Water Project (SWP), and groundwater is pumped from various local wells.

¹ Southern California Association of Governments (SCAG). 2008. Regional Comprehensive Plan: Water. Available online at: http://www.scag.ca.gov/Documents/f2008RCP_Water.pdf, accessed September 26, 2019.

Watershed Management

Watershed management relates to sustaining watersheds at an acceptable level of quality, contributing to resource quality, and maintaining groundwater supplies. The watersheds in the SCAG region are shown in **Section 3.10, Hydrology (Figure 3.10-2, Watersheds in the SCAG Region)**. These large watersheds are further divided into smaller sections by internal surface water drainage areas and groundwater basins.

Colorado River

The Colorado River is a major source of water for Southern California, and is imported via the Colorado River Aqueduct, owned and operated by MWD.

Under water delivery contracts with the United States, California entities have enjoyed legal entitlements to Colorado River water, beginning with the 1922 Colorado River Compact.² California was entitled to 4.4 million-acre feet (af), as well as half on any surplus, as defined by the U.S. Department of the Interior. Typically, the river's surplus has allowed California entities to take an additional 800,000 af annually.

However, with increased urbanization in the Colorado River Basin states and limitation agreements between those states, surplus water for California was eliminated; the State will gradually return to its original allotment of 4.4 million af. Given these new terms, California water agencies are pursuing various strategies to offset this gradual, but certain loss of future water supply. Examples of these strategies include additional reservoir and storage agreements, new water transfers between agricultural and urban users, and more water conservation and recycling.³

The Colorado River Hydrologic Region (see discussion below) is of particular concern because it encompasses the Coachella Valley in the West Basin and the desert in the East Basin. Irrigation needs in the Coachella Valley are met almost exclusively by water imported from the Colorado River. Historical extraction of groundwater in the Coachella Valley has caused overdraft. Currently, an extensive groundwater recharge project is being undertaken by the Coachella Valley Water District that recharges Colorado River Water into spreading basins. Within the East Basin, irrigation and domestic water is provided by the Colorado River with only approximately 1 percent groundwater use and little direct reclamation. Agricultural runoff and some domestic wastewater do get returned to the Colorado River. Therefore, the water at the southern end of the watershed is a mixture of Colorado River water, agricultural runoff, and reclaimed water.

² U.S. Bureau of Reclamation. *Colorado River Compact, 1922*. Available online at: <https://www.usbr.gov/lc/region/pao/pdffiles/crcompct.pdf>, accessed September 9, 2019.

³ Metropolitan Water District of Southern California. 2016. *2015 Urban Water Management Plan*. Available online at: https://www.mwdoc.com/wp-content/uploads/2017/05/UWMP_May-2016-v2.pdf, accessed January 14, 2019.

State Water Project

The State Water Project supplies water to Southern California via the California Aqueduct, with delivery points in Los Angeles, San Bernardino, and Riverside Counties. SWP was constructed and is managed by the Department of Water Resources (DWR), and is the largest state-owned, multipurpose water project in the country. State Water Project has historically provided 25 to 50 percent of MWD's water, anywhere from 450,000 af to 1.75 million af annually.⁴ In 2019, the State Water Project allocated 75 percent, or 3.1 million acre feet, of water to the state supply due to the previous winter's robust storms that resulted in above average snowpack and reservoir levels.⁵ The State Water Project provides water to approximately 27 million people and irrigation water for roughly 750,000 acres of agricultural lands annually.

Los Angeles Aqueduct

The Los Angeles Aqueduct, originally built in 1913, carries water 233 miles south from Owens Valley to the City of Los Angeles. The original aqueduct project was extended in 1940 to the Mono Basin. The system was supplemented by a second project, parallel to the first, completed in 1970. Los Angeles Aqueduct deliveries from the Mono Basin and Owens Valley have ranged from a 2015 low of 36,000 af and a high of 467,000 af in 1998. Since 1990, average deliveries have been approximately 240,000 af per year. Due to environmental considerations, approximately half of the Los Angeles Aqueduct water supply has been reallocated to supply environmental mitigation and enhancement projects.⁶

Transfers

In an effort to diversify water sources and reduce reliance on specific water imports, water agencies have engaged in water transfer agreements. These contractual agreements, made with irrigation districts, reduce water use on agricultural lands either through agricultural conservation or fallowing land.⁷ The water "freed" by these reductions is transferred to a municipal water district, where it may be used or

⁴ California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: <https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates>, accessed September 16, 2019.

⁵ California Department of Water Resources. 2019. *State Water Project Allocations Increase to 75 Percent*. Available online at: <https://water.ca.gov/News/News-Releases/2019/June/State-Water-Project-Allocations-Increase-to-75-Percent>, accessed September 26, 2019.

⁶ Metropolitan Water District of Southern California. 2016. *Integrated Water Resources Plan*. Available online at: [http://www.mwdh2o.com/PDF About Your Water/2015%20IRP%20Update%20Report%20\(web\).pdf](http://www.mwdh2o.com/PDF%20About%20Your%20Water/2015%20IRP%20Update%20Report%20(web).pdf), accessed September 26, 2019.

⁷ Some urban agencies also have the ability to enter "spot" water markets and to purchase water on an "as needed" basis.

stored in aquifers for future use, a practice called water banking. Water banking is also done during wet years, when rainwater is collected and directed toward recharge facilities for future use.

Water Suppliers

The SCAG region is served by many water suppliers, both retail and wholesale; the largest of these agencies is MWD. Created under state law in 1931, MWD serves the urbanized coastal plain from Ventura to the Mexican border in the west to parts of the rapidly urbanizing counties of San Bernardino and Riverside in the east. It provides water to about 90 percent of the urban population of Southern California. MWD is comprised of 26 member agencies, 12 of which supply wholesale water to retail agencies and other wholesalers, and 14 of which are individual cities which directly supply water to their residents.⁸ The Imperial Irrigation District (IID), in Imperial County, is the fourth largest irrigation district in the country.⁹

3.19.3.1.2 Water Treatment Facilities

As identified below in **Table 3.19.3-1, Active Water Treatment Facilities in the SCAG Region**, there are 36 water treatment facilities that service the SCAG region. There are no water treatment facilities currently active in the County of the Imperial.

**Table 3.19.3-1
Active Water Treatment Facilities in the SCAG Region**

County	Design Flow (mgd)
Los Angeles	17.258
Alhambra Groundwater Treatment Plant	0.35
Aspen Wall WTP	6.2
Hawthorne Drinking WTP	0.027
Brewer Desalter (Reverse Osmosis Plant)	1.0
El Monte Operable Unit wells	0.131
Gould Electronics Treatment Facility and Wells 14, 15, 16	1.0
Gould Electronics Treatment Facility and Wells SEW-2,-3,-4,-5	0.4
La Puente Valley WTP	3.6
South Coulter Surface WTP	0.0185
Granular Activated Carbon Treatment Plant	0.021

⁸ Metropolitan Water District. *Metropolitan Facts*. Available online at: http://www.mwdh2o.com/PDF_NewsRoom/6.4.2_District_at_glance.pdf, accessed August 29, 2019.

⁹ Imperial Irrigation District. *Water Conservation*. Available online at: <https://www.iid.com/water/water-conservation>, accessed August 29, 2019.

County	Design Flow (mgd)
Delta Plant	.49
Well No. 5 WTP	0.3
Wells 201 and 205 Perchlorate Treatment	3.0
Pebbly Beach Desalination Plant	0.72
Orange	164.110
Poseidon Huntington Beach Seawater Desalination Facility	56.59
SCWD Aliso Creek Water Harvesting Project	34.37
Irvine Desalter Project Potable WT System	34.37
San Juan Capistrano GW TP	38.78
Riverside	--
JCSD Wells 27 and 28	--
San Bernardino	0.511
Richardson Treatment Plant	--
LLU Wellhead Treatment System	--
Riverside Public Utility's Wellhead Treatment Plants	0.021
San Bernardino MWD Wellhead Treatment Systems	0.49
Ventura	0.067
San Nicolas Desalination Plant	0.067
Grand Total	181.946

Source: Cal EPA. 2019. California Integrated Water Quality System Project (CIWQS)- Regulated Facility Report (Detail).

<https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?reportID=9009425&reportName=RegulatedFacilityDetail&inCommand=displayCriteria>

California's water-related assets and services are provided by many interdependent systems that historically have been managed on a project-by-project basis. The gap between water supply and water demand decreased substantially between 2001 and 2010 (see **Table 3.19.3-2, California Hydrologic Summary**). This narrowing gap has been further exacerbated in the SCAG region by the 2012-2015 California drought. There are typically three sources of supply water: (1) natural sources, (2) manmade sources, and (3) reclamation. Natural water sources include rivers, lakes, streams, and groundwater stored in aquifers. Manmade sources include runoff water that is treated and stored in reservoirs and other catchment structures. Reclaimed water is wastewater that has been conveyed to a treatment plant and then treated enough that it may be used again for certain uses (such as irrigation). However, reclaimed water is not potable (drinkable) and must be conveyed in a separate system in order to ensure there is no possibility of direct human consumption. See **Table 3.19.3-2, California Hydrologic Summary (in Millions of Acre-Feet)**.

Table 3.19.3-2
California Hydrologic Summary (in Millions of Acre-Feet)

	Water Year									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average 1998- 2015
Percentage of normal precipitation	62%	77%	77%	104%	134%	75%	77%	56%	78%	
Water Entering the Region										
Precipitation	123	152	152	205	249.4	138.9	142	102.6	143.3	182.2
Inflow from Oregon/Mexico	1.2	1.2	1	0.9	1.3	1.0	0.8	0.8	0.7	1.3
Inflow from Colorado River	4.7	4.9	4.6	4.7	4.2	4.7	5.3	5.8	5.0	4.9
Imports from Other Regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total	129	158	157	211	254.9	144.6	148.1	109.2	149.0	188.4
Water Demand /Water Leaving the Region										
Consumptive use of applied water ^a (ag., municipal and industrial, wetlands)	28.6	29	28.1	25	26.5	30.6	30.9	30.8	29.4	27.3
Outflow to Oregon/Nevada/ Mexico	0.8	0.9	1	1.1	2.1	0.9	0.9	0.6	0.4	1.1
Exports to other regions	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Statutory required outflow to salt sink	20.3	20.6	18.3	24.4	32.6	22.6	18.8	13.1	16.6	25.3
Additional outflow to salt sink	9.2	10.6	8.6	13.8	28.8	8.0	9.8	3.8	7.2	19.2
Evaporation, evapotranspiration of native vegetation, groundwater subsurface outflows, natural and incidental runoff, agriculture effective precipitation, other outflows	89.8	114	113	149	164.7	102.7	107.4	84.4	115.2	126.8
Total	149	175	169	214	254.6	164.8	167.8	132.7	168.8	199.6
Change in Supply										
Surface reservoirs	-8	-3.9	1.1	5.1	6.2	-7.4	-4.1	-5.1	-0.8	-0.6
Groundwater ^b	-11.5	-13.1	-13.1	-8	-5.9	-12.8	-15.8	-18.4	-19.0	-10.6
Total	-19.5	-17	-12	-2.9	0.3	-20.2	-19.9	-23.5	-19.8	-11.2

Note:

a Consumptive use is the amount of applied water used and no longer available as a source of supply. Applied water is greater than consumptive use because it includes consumptive use, reuse, and outflows.

b Change in Supply: Groundwater – The difference between water extracted from and water recharged into groundwater basins in a region. All regions and years were calculated using the following equation: change in supply: groundwater = intentional recharge + deep percolation of applied water + conveyance deep percolation and see page - withdrawals. This does not include unknown factors such as natural recharge and subsurface inflow and outflow.

Source:

California Department of Water Resources. Accessed 9 September 2019. California Water Today, Volume 1 – The Strategic Plan. Available at: <https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates>

California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: <https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100fdf>

Surface and groundwater resources are largely managed as separate resources, when they are, in fact, a highly interdependent system of watersheds and groundwater basins. Water quality, land use, and flood management are also integral to the effective management of these systems.¹⁰

Within the SCAG region, water supply comes from a variety of sources. While the Metropolitan Water District (MWD) imports water from Colorado River and State Water Project and provides wholesale water supply to its coverage area, many cities and some county areas rely on groundwater, especially those along the coast. San Bernardino and Riverside Counties, for example, rely on a mixture of groundwater and surface water.

Following are the descriptions of the two primary hydrologic regions (South Coast and Colorado River) as well as associated regional water budgets.

Water Supply and Use in the South Coast Hydrologic Region

The South Coast Hydrologic Region has a diverse mix of both local and imported water supply sources. Local water sources include water recycling, groundwater storage, and infrastructure enhancements. The region imports water through the State Water Project, the Colorado River Aqueduct, and the Los Angeles Aqueduct. These resources allow the region flexibility in managing supplies and resources in wet and dry years. The MWD wholesales the water to a consortium of 26 member agencies, including 14 cities, 11 municipal water districts, and one county authority that serve nearly 19 million people living in six counties stretching from Ventura to San Diego. MWD imported an average of 1 million af of water per year from the SWP from 1995 to 2010, and just under 1 million af per year from the CRA during the same time period. **Table 3.19.3-3, South Coast Region Water Balance**, shows the water balance of the South Coast Hydrologic Region from 2011 to 2015.

¹⁰ California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: <https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates>, accessed September 16, 2019.

Table 3.19.3-3
South Coast Region Water Balance

Water Use	2011	2012	2013	2014	2015
Urban	3,530	3,794	3,967	3,992	3,439
Agricultural	655	680	985	1,061	691
Environmental	240	68	50	66	50
Total	4,425	4,542	5,002	5,119	4,179
Supplies					
Local Projects	214	237	197	168	164
Local Imported Deliveries	351	229	100	79	35
Colorado River Project	959	905	1,307	1,733	1,601
Federal Projects	2	0	0	0	0
State Project	904	1,174	1,064	646	460
Groundwater Extraction	1,351	1,484	1,824	1,986	1,462
Reuse and Recycled Water	645	513	510	506	457
Total	4,425	4,542	5,002	5,119	4,179

Note: Figures in thousands of acre-feet of water.

Source: California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: <https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100df>

Water Supply and Use in the Colorado River Hydrologic Region

About 85 percent of the Colorado River Region’s urban and agricultural water supply comes from surface water deliveries from the Colorado River. Water from the river is delivered to this region via the All American and Coachella canals, local diversions, and the Colorado River Aqueduct by means of an exchange for SWP water. The Colorado River is an interstate and international river whose use is apportioned among the seven Colorado River Basin states and Mexico by a complex body of statutes, decrees, and court decisions known collectively as the “Law of the River.” Local surface water, groundwater, and the SWP provide the remainder of water to the region. In addition, many of the alluvial valleys in the regions are underlain by groundwater aquifers that are the sole source of water for many local communities. However, some alluvial valleys contain groundwater of such poor quality it is not suitable for potable uses.

Other cities such as Banning, Coachella, Indio, Palm Desert, Hesperia, and Victorville, are solely dependent on groundwater; while other cities in the SCAG region have supplemented their groundwater supplies with water from the State Water Projects or local streams and reservoirs. **Table 3.19.3-4, Colorado River Region Water Balance**, shows the water balance for the Colorado River Hydrologic Region from 2011 to 2015.

Table 3.19.3-4
Colorado River Region Water Balance

Water Use	2011	2012	2013	2014	2015
Urban	477	591	338	302	269
Agricultural	3,637	4,217	4,616	4,750	3,817
Environmental	44	44	30	45	45
Total	4,158	4,852	4,985	5,098	4,130
Supplies					
Local Projects	2	2	2	2	2
Local Imported Deliveries	0	0	0	0	0
Colorado River Project	3,260	3,782	3,998	4,115	3,448
Federal Projects	0	0	0	0	0
State Project	133	169	94	19	53
Groundwater Extraction	317	390	222	266	163
Reuse and Recycled Water	446	510	669	697	465
Total	4,158	4,852	4,985	5,098	4,130

Note: Figures in thousands of acre-feet of water.

Source: California Department of Water Resources. 2019. California Water Plan Update 2018: Supporting Documentation for Water Portfolios. Available at: <https://data.ca.gov/dataset/water-plan-water-balance-data/resource/3e5bdae2-6352-4d8f-9e37-018357100fdf>

Local Water Supply

Local sources of water account for approximately 30 percent of the total volume consumed annually in the SCAG region.¹¹ Local sources include surface water runoff, groundwater, and water reclamation. Some local agencies have led efforts to diversify water supply, such as South Coast Water District's Doheny Ocean Desalination Project and West Basin Municipal Water District's Ocean Water Desalination project.

Local Surface Water (within Each Hydrologic Unit [HU] Region)

The infiltration of surface runoff augments groundwater and surface water supplies. However, the regional water demand exceeds the current natural recharge of runoff water. The arid climate, summer drought, and increased impervious surface associated with urbanization contribute to this reduction in natural recharge. Urban and agricultural runoff often contains pollutants that decrease the quality of local water supplies. Runoff captured in storage reservoirs varies widely from year to year depending on the

¹¹ California Department of Water Resources. Accessed 15 September 2015. *California Water Plan Update 2013*. Available at: <http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm>

amount of local precipitation. On average, precipitation contributes approximately 38,000 acre-feet per year (afy) within the MWD service area (not including San Diego County). Within the desert regions, the amount is considerably less, owing to climatic differences.

Local Groundwater

Groundwater represents most of the SCAG region's fresh water supply, making up approximately 34 percent of total water use, depending on precipitation levels.¹² The hydrologic regions vary in their dependence on groundwater for urban and agricultural uses (**Table 3.19.3-5, Groundwater Dependence in the SCAG Region**). The DWR estimates that the state has a groundwater overdraft of approximately 1 to 2 maf in average years.¹³

**Table 3.19.3-5
Groundwater Dependence in the SCAG Region**

Hydrologic Region	Percentage of Total Urban and Agricultural Water Supply Provided by Groundwater
Central Coast ^a	86%
South Coast ^b	34%
South Lahonton ^c	66%
Colorado River ^d	9%

Note:

a Includes part of Ventura County. The remainder is outside of the SCAG Region.

b Includes Orange County, most of San Diego and Los Angeles counties, parts of Riverside, San Bernardino, Ventura, Kern and Santa Barbara counties.

c Includes most of San Bernardino County, as well as Inyo, and parts of Mono, Kern and Los Angeles counties.

d Includes all of Imperial County, most of Riverside, and parts of San Bernardino and San Diego counties.

Source:

California Department of Water Resources. *California Water Today, Volume 1 – The Strategic Plan*. Available online at: <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Water-Plan-Updates/Files/Update-2013/Water-Plan-Update-2013-Volume-1.pdf?la=en&hash=D34DCEE71FBC479F6A86490CA639DE5D66D49720>, accessed September 9, 2019.

Recent efforts to store recycled water and surplus water in groundwater basins for use during drought periods have proven successful. MWD has 10 projects with various water agencies for groundwater storage, resulting in approximately 421,900 af of added capacity per year. A number of agencies within the region are also active in the recharge of surface water, including the Orange County Water District,

¹² California Department of Water Resources. 2013. *California Water Plan, Volume 1 – The Strategic Plan*. Available online at: <https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates>, accessed September 16, 2019.

¹³ Ibid.

Los Angeles County Department of Water and Power, Foothill Municipal Water District, San Bernardino County Water and Flood Control District, Coachella Valley Water District, the Water Replenishment District of Southern California, the San Gabriel Valley Municipal Water District, and the Calleguas Municipal Water District.

3.19.3.2 REGULATORY FRAMEWORK

3.19.3.2.1 Federal

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) (33 USC Sections 1251 *et seq.*) was enacted by Congress in 1972 and has been amended several times since its adoption. It is the primary federal law regulating water quality in the U.S. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all surface waters in the U.S. The CWA is administered by the U.S. Environmental Protection Agency (USEPA).¹⁴

In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement many of the Clean Water Act's provisions. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency (US EPA). For point source discharges to surface water, the Clean Water Act authorizes the U.S.EPA and/or approved states (such as California) to administer the National Pollutant Discharge Elimination System (NPDES) program. The NPDES program regulates the discharge of pollutants from point sources. Municipal point sources consist primarily of municipal wastewater treatment plant outfalls and stormwater conveyance system outfalls. The Clean Water Act also establishes a loan program - the State Revolving Fund - for the implementation of water quality improvement projects.

Safe Drinking Water Act

Passed in 1974 and amended in 1986 and 1996, the Safe Drinking Water Act (SDWA) gives the EPA the authority to set drinking water standards. Drinking water standards apply to public water systems, which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals. There are two categories of drinking water standards, the National Primary

¹⁴ U.S. Environmental Protection Agency. *Clean Water Act, Section 402: National Pollutant Discharge Elimination System*. Available online at: <https://www.epa.gov/cwa-404/clean-water-act-section-402-national-pollutant-discharge-elimination-system>, accessed August 29, 2019.

Drinking Water Regulations (NPDWR) and the National Secondary Drinking Water Regulations. The NPDWR are legally enforceable standards that apply to public water systems. NPDWR standards protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water.¹⁵

3.19.3.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 *et seq.*), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected;
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine Regional Water Boards (based on hydrogeologic barriers) and the State Water Board, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Water Board provides program guidance and oversight, allocates funds, and reviews Regional Water Boards decisions. In addition, the State Water Board allocates rights to the use of surface water. The Regional Water Boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The State Water Board and Regional Water Boards have numerous NPS-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits and waste discharge requirements (WDRs for point and nonpoint source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge.

¹⁵ U.S. Environmental Protection Agency. *Safe Drinking Water Act (SDWA)*. Available online at: <https://www.epa.gov/sdwa>, accessed August 29, 2019.

The Porter-Cologne Act also implements many provisions of the Clean Water Act, such as NPDES permitting program. Section 401 of the Clean Water Act gives the State Water Board the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with State water quality standards.

The Porter-Cologne Act also requires adoption of water quality control plans (Basin plans) that contain the guiding policies of water pollution management in California. A number of statewide water quality control plans have been adopted by the State Water Board. In addition, basin plans have been adopted by each of the Regional Water Boards and get updated as necessary and practical. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The basin plans also contain implementation, surveillance, and monitoring plans. Statewide and regional water quality control plans include enforceable prohibitions against certain types of discharges, including those that may pertain to nonpoint sources. Portions of water quality control plans, the water quality objectives and beneficial use designations, are subject to review by U.S.EPA, when approved they become water quality standards under the Clean Water Act.¹⁶

California Administrative Code

California Administrative Code Title 24 contains the California Building Standards, including the California Plumbing Code (Part 5), promotes water conservation. Title 20 addresses Public Utilities and Energy and includes appliance efficiency standards that promote water conservation. In addition, a number of State laws listed below require water-efficient plumbing fixtures in structures:

- Title 20, California Administrative Code, Section 1604(g) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, sink faucets, and tub spout diverters.
- Title 20 California Administrative Code Section 1606 prohibits the sale of fixtures that do not comply with established efficiency regulations.
- Title 24, California Administrative Code, Sections 25352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. Insulation of water-heating systems is also required.
- Health and Safety Code Section 17921.3 requires low-flush toilets and urinals in virtually all buildings.

¹⁶ California Water Boards. 2019. *Porter-Cologne Water Quality Control Act*. Available online at: https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf, accessed August 29, 2019.

Under Title 22, the State Department of Health establishes State-wide effluent bacteriological and treatment reliability standards for recycled water uses. The standards are based on the potential for human contact with recycled water. The regional water quality control board (RWQCB) has established and enforces requirements for the application and use of recycled water. Permits are required from a RWQCB for any recycling operation. Applicants for a permit are required to demonstrate that the proposed recycled water operation is in compliance with Title 22 and will not exceed the ground and surface water quality objectives in the regional basin management plan.¹⁷

The Water Conservation Act of 2009

These sections of the Water Code, enacted as SB X7-7—The Water Conservation Act of 2009, set water conservation targets and efficiency improvements for urban and agricultural water suppliers, Sections 10608.16 and Sections 10608.48, respectively. The legislation establishes a State-wide target to reduce urban per capita water use by 20 percent by 2020. Urban retail water suppliers are required, individually or on a regional basis, to develop an urban water use target by December 31, 2010, to meet their target by 2020, and to meet an interim target (half of their 2020 target) by 2015. Urban water suppliers cannot impose conservation requirements on process water (water used in production of a product) and are required to employ two critical efficient water management practices—water measurement and pricing. Urban retail water suppliers must include in a water management plan, to be completed by July 2011, the baseline daily per capita water use, water use target, interim water use target, and compliance daily per capita water use.¹⁸

California Urban Water Management Planning Act

This part of the State Water Code (Section 10610) states that each urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AF of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years by preparing a UWMP and updating it every five years. The Act describes the contents of UWMPs and requires each agency's UWMP to assess the reliability of the agency's water resources over a 20-year planning horizon.¹⁹

¹⁷ California Department of Public Health. 2014. *Regulations Related to Recycled Water*. Available online at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/lawbook/RWregulations_20140618.pdf, accessed August 29, 2019.

¹⁸ California Department of Water Resources. 2019. *SB X7-7*. Available online at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-X7-7>, accessed August 29, 2019.

¹⁹ California Department of Water Resources. 2019. *Urban Water Management Plan*. Available online at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans>, accessed August 29, 2019.

California Senate Bill 610

Referred to as SB 610, the intent of this part of the State Water Code is to ensure that sufficient water supplies are available for growing communities. Water Code Section 10910 requires any project subject to CEQA of a specified minimum size to require a local public water provider with more than 3,000 service connections to prepare a water supply assessment (WSA) for the project. The WSA must document sources of water supply, quantify water demands, and compare future water supply and demand to show that sufficient water will be available to serve the development project. Water supply must be assessed for normal, single dry, and multiple dry water years during a 20-year forecast.²⁰ If supplies are found to be insufficient to serve the project, the WSA must include plans for acquiring sufficient supplies. The WSA must be included in the CEQA document for the project.²¹

California Senate Bill 221

SB 221 applies to subdivisions of more than 500 dwelling units (Water Code Section 10912). Like SB 610, it is intended to ensure an adequate water supply for new development. SB 221 requires that approval of a tentative map showing the design and improvement of a proposed subdivision shall include a requirement that a sufficient water supply is available.^{22,23}

California Groundwater Management Act

The Groundwater Management Act (AB 3030, Water Code Sections 10750 et seq.) provides guidance for applicable local agencies to develop voluntary groundwater management plans (GMP) in State-designated groundwater basins. GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance and water quality.²⁴

²⁰ California Legislative Information. *Part 2.10. Water Supply Planning to Support Existing and Planned Future Uses [10910-10915], Section 10910.*

²¹ California Department of Water Resources. *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001.* Available online at: https://water.ca.gov/LegacyFiles/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf, accessed August 29, 2019.

²² Ibid.

²³ California Legislative Information. *Part 2.10. Water Supply Planning to Support Existing and Planned Future Uses [10910-10915], Section 10912.*

²⁴ California Department of Water Resources. *1992 Assembly Bill 3030 (AB3030).*

California Model Water Efficient Landscape Ordinance

The California Model Water Efficient Landscape Ordinance (MWELo) sets restrictions on outdoor landscaping. Because the City of Lincoln is a “local agency” under the MWELo, it must require project applicants to prepare plans consistent with the requirements of the MWELo for review and approval by the City. The MWELo was most recently updated by the Department of Water Resources and approved by the California Water Commission on July 15, 2015. All provisions became effective on February 1, 2016. The revisions, which apply to new construction with a landscape area greater than 500 square feet, reduced the allowable coverage of high-water-use plants to 25 percent of the landscaped area. The MWELo also requires use of a dedicated landscape meter on landscape areas for residential landscape areas greater than 5,000 square feet or nonresidential landscape areas greater than 1,000 square feet, and requires weather-based irrigation controllers or soil-moisture based controllers or other self-adjusting irrigation controllers for irrigation scheduling in all irrigation systems.²⁵

Governor’s Executive Order B-29-15 issued on April 1, 2015

Key provisions of Executive Order B-29-15 included ordering the State Water Resources Control Board to impose restrictions to achieve a 25-percent reduction in potable urban water usage through February 28, 2016; directing DWR to lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes, and directing the California Energy Commission to implement a statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices.²⁶

3.19.3.2.3 Regional

The water quality control plans and groundwater protection responsibilities for the SCAG region are described in **Section 3.10, Hydrology and Water Quality**.

Urban Water Management Plans

Under California Water Code Division 6, Part 2.6, Section 10610-10656, the Urban Water Management Planning Act (UWMPA) requires urban water suppliers that supply more than 3,000 acre-feet of water annually, or serve more than 3,000 connections, to submit an Urban Water Management Plan (UWMP).

²⁵ California Department of Water Resources. *Model Water Efficient Landscape Ordinance*. Available online at: <https://water.ca.gov/LegacyFiles/wateruseefficiency/docs/MWELo09-10-09.pdf>, accessed August 29, 2019.

²⁶ California Water Boards. 2015. *Executive Order B-29-15 State of Emergency Due to Sever Drought Conditions*. Available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/econ_analysis.pdf, accessed August 29, 2019.

The UWMP is a public document prepared by water suppliers to support their long-term resource planning over a 20-year period and ensure adequate water supplies are available to meet existing and future water demands. The UWMP must be submitted to the DWR every 5 years, and must demonstrate progress toward reduction in 20 percent per capita urban water consumption by the year 2020, as required in the Water Conservation Bill of 2009, Senate Bill X7-7. There are 138 service districts in the SCAG region required to develop a UWMP, which is typically prepared and submitted to DWR within 30 days and reviewed 60 days prior to public hearing for plan adoption and implementation. The preparation of the plan includes guidebook, workshops, and programming for comprehensive strategies to conserve water.²⁷

3.19.3.2.4 Local

Utility Master Plans & Utility Capital Improvement Programs

Jurisdictions usually have utility master plans or other planning documents that identify and prioritize projects needed to maintain adequate levels of utility service in the jurisdiction.

General Plans

Local policies related to utilities and service systems are established in each jurisdiction's general plan. In general, jurisdictions have policies in place that state that utility and service systems must be provided at the same time (or in advance of) need. In addition to these general policies, jurisdictions may have more specific policies tailored to performance objectives including wastewater treatment services.

3.19.3.3 ENVIRONMENTAL IMPACTS

3.19.3.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of Connect SoCal could result in significant adverse impacts with regards to water supply if the Plan would result in any of the following:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects;

²⁷ California Department of Water Resources. *California Water Code Division 6 Part 2.6. Urban Water Management Planning*. Available online at: https://water.ca.gov/LegacyFiles/urbanwatermanagement/docs/water_code-10610-10656.pdf, accessed August 29, 2019.

- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

3.19.3.3.2 Methodology

The methodology for determining the significance of impacts to utilities and service systems compares existing conditions to the expected future use of potable water supplies, wastewater, stormwater facilities, and landfills with the Plan. The criteria above were applied to compare current conditions to future 2045 Plan conditions.

Implementation of the Plan would affect the use of utility and service systems in the SCAG region. The analysis of these impacts is programmatic at the regional level. With regards to water supply, the Plan's potential to exceed capacity of local infrastructure and require the relocation or construction of new or expanded facilities or result in a determination that projected demand in addition to current demands is used to determine the significance of the projects effects.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.19.3.3.3 Impacts and Mitigation Measures

Impact USWS-1 Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Significant and Unavoidable – Mitigation Required.

Population in the SCAG region is expected to increase by 3.2 million people by 2045 which may result in a significant impact to the existing water infrastructure in the region. In 2014, California passed Proposition 1 in order to guarantee approximately \$7.12 billion for water infrastructure projects,

including \$725 million for projects that treat wastewater or saltwater.²⁸ Moreover, the DWR announced in June 2019 that \$14 million in grant funding will be appropriated for projects that increase water quality, supply, and infrastructure.²⁹ A number of desalination projects have been proposed or are under construction within the SCAG region, including the West Basin Desalination Project which could produce 20 million gallons per day (mgd) (with potential expansion to 60 million gallons per day),³⁰ the Doheny Ocean Desalination Project which could produce 5 million gallons per day (with potential expansion to 15 mgd),³¹ and the Huntington Beach Desalination Plant which could produce 50 mgd.³² Additionally, Los Angeles and Orange Counties will develop pilot projects to increase stormwater capture. Specifically, the Mayfair Park Capture Project and Caruthers Park Water Capture Project Los Angeles County will capture an estimated 710 and 780 acre-feet/year, respectively.³³ In Orange County, the San Juan Aquifer Recovery Project is in the preliminary design phases for a stormwater capture project in the San Juan Watershed.³⁴ In February 2019 the City of Los Angeles announced its commitment to 100 percent recycled water at the Hyperion, L.A. Glendale, Tillman, and Terminal Island water treatment facilities by 2035.³⁵

Therefore, there is anticipated to be an increase in water supply within the SCAG region from recycling and desalination. California residents used an estimated average 85 gallons of water per day in 2016.³⁶ Assuming per capita water consumption remains consistent, the SCAG region could require approximately 312.4 million more gallons of water per day to meet the increase in population. In recent years, as a result of increased water conservation, urban water demand has remained relatively constant despite growing population. However, there may be a limit to how much water can be saved through

²⁸ Legislative Analyst's Office. 2014. *Water Quality, Supply, and Infrastructure Improvement Act of 2014. AB 1471 (Chapter 188, Statutes of 2014), Rendon. Bond Measure.*

²⁹ California Department of Water Resources. *\$14 Million Awarded in Grant Funding for Water Desalination Projects.* Available online at: <https://water.ca.gov/News/Blog/2019/June-2019/14-Million-Awarded-in-Grant-Funding-for-Water-Desalination-Projects>, accessed September 12, 2019.

³⁰ West Basin Municipal Water District. *Full Draft EIR.* Available online at: <http://westbasindesal.com/draft-eir.html>, accessed September 11, 2019.

³¹ South Coast Water District. *Doheny Ocean Desalination Project.* Available online at http://scwd.org/depts/engineering/projects/water_supply_projects/oceandesal3/default.htm, accessed September 11, 2019.

³² Poseidon Water. *Huntington Beach Desalination Project.* Available online at: <http://www.poseidonwater.com/huntington-beach-desalination-plant.html>, accessed September 12, 2019.

³³ State Water Resources Control Board. *Potential Pilot Projects Identified by Interested Parties.* Available online at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/potential_projects.shtml, accessed September 11, 2019.

³⁴ Ibid.

³⁵ California Water News Daily. 2019. *Los Angeles Mayor Garcetti Announces Goal to Recycle 100 Percent of City's Wastewater by 2035.* Available online at: <http://californiawaternewsdaily.com/conservation/los-angeles-mayor-garcetti-announces-goal-to-recycle-100-percent-of-citys-wastewater-by-2035/>, accessed September 11, 2019.

³⁶ Legislative Analyst's Office. *Residential Water Use Trends and Implications for Conservation Policy.*

conservation and even with increases in water efficiency, increasing population could increase water demand. As a result, new water facilities will likely need to be constructed or expanded in order to meet this demand. Water facility projects vary in sizes and locations, but larger regional-scale facilities may be constructed in sensitive environments (e.g. desalination plants adjacent to the ocean). The construction of these larger-scale facilities could result in significant impacts because of their size, prominence and location.

Mitigation Measures

SCAG Mitigation Measure

SMM USWS-1: SCAG shall coordinate with local agencies as part of SCAG's Sustainability Program regarding the implementation of Urban Greening, Greenbelts and Community Separator land use strategies. Primary features of land use strategies address the following:

- Increased trail and greenway connectivity;
- Improved water quality, groundwater recharge and watershed health;
- Reduce urban runoff;
- Expand the urban forest;
- Provision of wildlife habitat and increased biodiversity;
- Expand recreation opportunities and beautification;
- Preserving agrarian economies;
- Restore severed wildlife corridors.

Project Level Mitigation Measures

PMM USWS-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to ensure sufficient water supplies, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native

landscape plantings, using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.

- b) Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible.
- c) Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.
- d) For projects located in an area with existing reclaimed water conveyance infrastructure and excess reclaimed water capacity, use reclaimed water for non-potable uses, especially landscape irrigation. For projects in a location planned for future reclaimed water service, projects should install dual plumbing systems in anticipation of future use. Large developments could treat wastewater onsite to tertiary standards and use it for non-potable uses onsite.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce demand for water which could result in reduced need to construct new water facilities, but construction of new large-scale water facilities is reasonably foreseeable given the expected population increase and anticipated demand for water. Therefore, given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts with respect to new or expanded water facilities could be significant and unavoidable even with implementation of mitigation.

Impact USWS-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Significant and Unavoidable – Mitigation Required.

The Plan could result in insufficient water supplies from existing entitlements and resources resulting in significant impacts. Transportation projects and development projects anticipated to occur under the Plan have the potential to result in water use that could exceed available water supply. Potential factors that would lead water supply capabilities being exceeded include vulnerability and uncertainty of water supply, in relation to climate variability, resulting from increased temperatures and wildlife fires, as well as regulatory or legislative decisions that could affect the availability of imported water.

Water agencies in the SCAG region produce Urban Water Management Plans (UWMPs) and other long-range planning studies to provide a system adequate to supply water demand. At current usage rates, existing water supplies and infrastructure would not be sufficient to meet demand in 2045. The volume of water and water delivery infrastructure available within the SCAG region may not be sufficient to meet the future multiple dry year or average year water demand in 2045 without substantial reduction in water demand. **Table 3.19.3-6, Metropolitan Water District's Local Supplies for Average and Dry Years**, shows the anticipated water supply for the MWD area, which makes up a portion of the SCAG region, for 2020, 2030, and 2040.

**Table 3.19.3-6
Metropolitan Water District's Local Supplies for Average and Dry Years**

	2020		2030		2040	
	Average Year	Dry Year	Average Year	Dry Year	Average Year	Dry Year
Local Groundwater						
<i>From Natural Recharge</i>	1,011,000	1,007,000	1,004,000	1,005,000	1,005,000	1,006,000
<i>Replenishment</i>	292,000	298,000	297,000	297,000	297,000	297,000
Local Projects						
<i>Groundwater Recovery</i>	143,000	139,000	163,000	162,000	167,000	167,000
<i>Recycling</i>	436,000	427,000	486,000	482,000	509,000	507,000
<i>Seawater Desalination</i>	51,000	56,000	51,000	56,000	51,000	56,000
Local Runoff Stored	110,000	102,000	110,000	102,000	110,000	102,000
Los Angeles Aqueduct	261,000	113,000	264,000	125,000	268,000	133,000
IID-SDCWA Transfer and Canal Lining	274,000	274,000	282,000	282,000	282,000	282,000
Total	2,578,000	2,416,000	2,657,000	2,511,000	2,689,000	2,550,000

Source:

The Metropolitan Water District of Southern California. 2016. 2015 Urban Water Management District. Available online at: http://www.mwdh2o.com/PDF/About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf, accessed September 12, 2019.

Based on projected population growth under the Plan, the demand for municipal water would increase. Many agencies are implementing aggressive water conservation, recycling and planning strategies (water

transfer and water banking) to sustain the supply of water during wet and dry years. The City of Los Angeles for example has maintained relatively constant water demand over the past ten years as a result of water conservation despite increasing population. Additionally, the Plan's land use strategies encourage compact development and smaller single-family lots in urbanized areas such as HQTAs. Compact development tend to consume water more efficiently (lower per capita consumption). Nonetheless, when considering the Plan as a whole for the region, there is potential for demand in the region to exceed existing and reasonably foreseeable water supplies, due to increased population, drought conditions, and unreliable water supply in the region, constituting a significant impact.

Meeting future water demand is the responsibility of local and regional water agencies. Water supplies are either produced locally from groundwater and surface water sources or are imported via the Los Angeles Aqueduct, the California Aqueduct, the Colorado River Aqueduct, the All American Canal, or the Coachella Canal. Other means of providing water without increasing imported supplies include reclamation and recycling, conservation, water transfers, groundwater banking, developing brackish groundwater, and ocean desalination.

The Urban Water Management Plan Act of 1990 requires that local water agencies prepare plans showing projected water supplies and demands for average years and multiple dry years. These plans are updated every five years. As part of the statewide continued efforts on reducing water usage, the UWMP has been amended to further require urban water suppliers to include narrative descriptions of their water demand management measures in the UWMPs. The descriptions include discussions on progress on water demand management measures implemented over the last five year, and identify additional measures and water saving practices that will help suppliers achieve water use reduction targets. Additionally, the amended Act requires UWMPs to quantify distribution system water losses as a new category of past and current water use and allows water use projections to account for estimated water savings resulting from implementation of applicable codes, building design standards, ordinances, and transportation and land use plans.

The Metropolitan Water District of Southern California prepared the Integrated Water Resources Plan (IRP)³⁷ that provides a roadmap for maintaining regional water supply. The framework places an increased emphasis on regional collaboration. Earlier plans dating back to 1996 set a regional reliability goal of meeting full-service demands at the retail level under all foreseeable hydrologic conditions. This updated plan seeks to stabilize Metropolitan's traditional imported water supplies and to continue developing additional local resources.

³⁷ Metropolitan Water District of Southern California. *Integrated Water Resources Plan*. Available online at: [http://www.mwdh2o.com/PDF_About_Your_Water/2015%20IRP%20Update%20Report%20\(web\).pdf](http://www.mwdh2o.com/PDF_About_Your_Water/2015%20IRP%20Update%20Report%20(web).pdf), accessed August 28, 2019.

Over 80 percent of the projected population in the SCAG region for the year 2045 is within the MWD service area.³⁸ It is anticipated that moderate density development in suburban areas, and compact development in urbanized areas, would reduce the need to extract and haul waters to distances outside of the urbanized and undeveloped areas. Supplying the water necessary to meet future demand and/or minimizing that demand based on anticipated land use distribution would mitigate anticipated impacts. Each water district develops its own policy for determining its planning horizon and for acquiring and building water facilities. Water districts would provide water for the growth planned and authorized by the appropriate land use authority. However, given the challenges to imported water supplies, meeting future demand is difficult. Therefore, impacts would be significant, requiring the consideration of mitigation measures.

Mitigation Measures

SCAG Mitigation Measure

See **SMM USWS-1**.

Project Level Mitigation Measures

See **PMM-USWS-1**.

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to sufficient water supplies could be significant and unavoidable even with implementation of mitigation.

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³⁸ Metropolitan Water District of Southern California. n.d. Members Agency Map. Available online at: http://mwdh2o.com/PDF_In_The_Community/3.3_service_area_map.pdf, accessed August 29, 2019.

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This section of the Program Environmental Impact Report (PEIR) describes existing wildfire conditions within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect wildfire, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible. Other fire protection considerations are addressed in **Public Services, Section 3.15.1, Fire Protection**, in addition emergency access is addressed in **Section 3.17, Transportation, Traffic, and Safety**, and emergency response and evacuation plans are addressed in **Section 3.9, Hazards and Hazardous Materials**.

3.20.1 ENVIRONMENTAL SETTING

3.20.1.1 Definitions

Definitions of terms used in the regulatory framework, characterization of baseline conditions, and impact analysis for wildfire are provided.

CAL FIRE: California Department of Forestry and Fire Protection (abbreviated Cal Fire and styled CAL FIRE). CAL FIRE is the State of California’s fire protection agency responsible for protection and stewardship of over 31 million acres of the state’s privately-owned wildlands. CAL FIRE is an “all-risk” department, meaning its teams may respond to a car crash, medical incident, hazardous material spill, or natural disaster, not just fires. CAL FIRE is also responsible for managing 71,000 acres of Demonstration State Forests, overseeing enforcement of state forest management regulations, and operating training and certification course trainings.¹

Clearance: Space cleared of vegetation as required by law, regulation, easement, etc. for the purpose of preventing fires.

Containment/Control: A fire is contained when it is completely surrounded by a boundary but is still burning and has the potential to jump a boundary line. The boundary may be a “fire line” which is a strip of area where the vegetation has been removed to deny the fire fuel, or a river, a freeway or some other barrier which is expected to stop the fire. Hose lines from fire engines may also contribute to a fire being

¹ California Department of Forestry and Fire Protection. *About Us*. Available online at <https://www.fire.ca.gov/about-us/>, accessed September 10, 2019.

surrounded and contained. A fire is controlled when there is no further threat of it jumping a containment line. While crews continue to do mop-up work within the fire lines, the fire fight is over.

Contract Counties: Contract counties are counties where the local county fire department is contracted by CAL FIRE to protect a State Responsibility Area (SRA). Section 4133 of the Public Resources Code and Section 55607 of the Government Code permit the CAL FIRE Director to contract with counties for protection of SRAs. In California, six counties provide fire-prevention services in SRAs under contract with the state. These counties are Marin, Kern, Santa Barbara, Ventura, Los Angeles and Orange.

Damage Assessment: Amount of economic loss, including cost of fire suppression.

Defensible Space: An area either natural or manmade where material capable of causing a fire to spread unchecked has been treated, cleared, reduced or changed in order to act as barrier between the advancing wildfire and the loss to life, property, or resources. This concept is vital for firefighter safety and provides the single significant element of protection of individual property owners. California law requires homeowners to maintain 100 feet of defensible space around homes and structures.

Easement: A right to cross or otherwise use someone else's property for a specified purpose.

Fire Hazard: Dangerous accumulation of flammable fuels in wildland areas, usually referring to vegetation or the flammable materials that may be ignited by various fire risks or cause fires to increase in intensity or rate of spread.

Fire Hazard Zoning: A planning and regulatory activity (typically conducted by a local agency such as a city or county) which provides criteria for what kinds, how many and under what conditions development or other activities should be regulated in areas of various hazard classification.

Fire Season: In California fire season generally lasts for six to eight months, from summer to early fall. In recent years, fire season has extended into December.

Greenbelts: A facility or land use designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds and maintained vineyards, orchards or annual crops that do not cure in the field.

Interface/ Wildland Interface: The meeting point of wildland and structures. At this interface, structures and vegetation are sufficiently close that a wildland fire could spread to structures or a structure fire ignites vegetation.

Intermix/ Wildland Intermix: Interspersion of developed land with wildland, where there are no easily discernible boundaries between the two systems. In this setting, there may be homes or other structures intermixed with wildland fuels, as opposed to a distinct area of wildland fuel adjacent to a developed area.

Local Responsibility Area (LRA): Areas where wildland fire protection is the responsibility of the local government. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local governments.

Prescribed Burning: Controlled application of fire to wildland fuels, in either their natural or modified state, under conditions of weather, fuel moisture, soil moisture, etc., as to allow the fire to be confined to a predetermined area and at the same time to produce results to meet planned objectives of land management.

Santa Ana Winds: Santa Ana winds blow from the northeast toward the beaches as areas of strong high pressure build across the interior west. The wind speed can be magnified as air squeezes over mountain passes and rushes downhill, heating and drying as it descends in elevation. Severe Santa Ana Wind events pose a heightened wildfire risk.

State Responsibility Area (SRA): SRAs are areas in which the primary financial responsibility for preventing and suppressing fires is that of the state and is defined based on land ownership, population density and land use.² These include: lands covered wholly or in part by timber, brush, undergrowth or grass, whether of commercial value or not; lands which protect the soil from erosion, retard run-off of water or accelerated percolation; lands used principally for range or forage purposes; lands not owned by the Federal government; and lands not incorporated. By Board regulations, unless specific circumstances dictate otherwise, lands are removed from SRA when housing densities average more than 3 units per acre over an area of 250 acres. CAL FIRE has SRA responsibility for the protection of more than 31 million acres of California's privately-owned wildlands.³

Wildland: Refers to unoccupied lands

Wildland Urban Interface: Refers to the geographical point where flammable vegetation meets man-made structures.

² CAL FIRE. 2017. *Fire Prevention Fee*. Available online at: <https://www.cdtfa.ca.gov/taxes-and-fees/fire-prevention-fee.htm>, accessed September 7, 2019.

³ CAL FIRE. *Informational Report for State Responsibility Area Fire Prevention Fee: Fiscal Year 2016-2017*. Available online at: <https://www.fire.ca.gov/media/8146/report-for-sra-fire-prevention-fee-fy16-17.pdf>, accessed August 21, 2019.

3.20.1.2 Existing Conditions

A wildfire is defined as a non-structural fire in undeveloped area with the potential to spread to an urban area. While wildfires are common across California, a variety of factors can affect the likelihood of a fire occurring and the severity of the burn. Unsurprisingly, locations with hot, dry, and windy conditions face a greater fire hazard than wetter and cooler locations, and communities near wildland areas are more endangered than those in cities and towns. Vegetation, topography, roadways, and management methods also contribute to an area's potential for fire hazards. Steep hillsides and varied topography may also increase the risk of wildland fires, and could affect natural resources, as well as life and property. Most fires in California occur during late summer and early fall, but recently the fire season is starting earlier and lasting longer in the year, affecting areas longer, and resulting in more extreme events due to climate change.

CalFire publishes Fire Hazard Severity Zone Maps for the entire State of California, which include fire hazard measurements, as well as the areas that are under State Responsibility Areas (SRA) lands or Local Responsibility Area (LRA) lands, for each county in the State. These maps place areas of the state into different fire hazard severity zones (FHSZ) based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban fire could result in catastrophic losses. As part of this mapping system, land where CAL FIRE is responsible for wildland fire protection and generally located in unincorporated areas is classified as a SRA. In addition to establishing local or state responsibility for wildfire protection in a specific area, CAL FIRE designates areas as very high fire hazard severity (VHFHSZ) zones or non-VHFHS zones.⁴

In 2017, and then again in 2018, California experienced record-breaking heat as a part of a global warming trend. The heat, coupled with years of drought and an increase of forest pests and disease linked to climate change, created perfect fire conditions that allowed for some of the most destructive and deadliest fires in the state's history. Wind direction and intensity, particularly for fires close to populated areas pose not only safety issues, but also air quality related health issues.

Fire Hazard Severity Zones

Wildland fire protection in California is the responsibility of either the local, state, or federal government. Public Resources Code Section 4201-5 (Chapter 806, Statutes of 1982) requires CAL FIRE to evaluate fire hazard severity and map FHSZ for all SRA.⁵ FHSZs are based on factors such as fuel, slope, and weather

⁴ CAL FIRE. 2007. *Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf, accessed August 20, 2019.

⁵ California Legislative Information. 1982. *Article 9. Fire Hazards Severity Zones [4201-4204]*.

and are designated as moderate, high, and very high. Zone classification is based on a combination of how a fire will behave and the probability of flames and embers threatening buildings. By identifying areas with the potential for more severe wildfire hazards, FHSZ maps allow for proper planning, prevention, and mitigation that reduce wildfire damages. As of 2018, CAL FIRE is in the planning stages of updating all FHSZ for SRA counties and upon completion, would make recommendations to LRAs.

After the Oakland Hills Fire of 1991, the “Bates Bill” (Senate Bill 337) was passed in 1992, calling on CAL FIRE to make recommendations to local jurisdictions where VHFHSZs exist. The bill provides direction for local jurisdictions to mitigate fire spread and reduce the intensity of uncontrolled blazes.

Fire hazard severity zone levels range from Moderate to Very High. Fire hazard severity zones are designated in three types of areas based on what level of government is financially responsible for preventing and suppressing wildfires:

- **Federal Responsibility Areas (FRAs):** The federal government is financially responsible for wildfire suppression. Within the District, the Angeles National Forest and federal land in the Santa Monica Mountains National Recreation Area are FRAs.
- **State Responsibility Areas (SRAs):** The state is financially responsible for wildfire suppression. Within the District, SRAs are in outlying areas such as the Santa Susana Mountains, foothills of the San Gabriel Mountains, and parts of the Santa Monica Mountains.
- **Local Responsibility Areas (LRAs):** Cities or the County are financially responsible for wildfire suppression. LRAs in Los Angeles County include foothills of the Santa Susana and San Gabriel Mountains, and in the Verdugo Mountains, Santa Monica Mountains, Hollywood Hills, San Rafael Hills, Puente Hills, and in other hills in the central Los Angeles area.

SCAG Region

Though wildland fires are a natural part of the ecological processes, in the past, it was presumed that all wildland fires should be extinguished promptly. This caused “protected” vegetation to grow denser, weakening vegetation in a struggle for living space and increasing destruction by pests and disease; and in turn, added fuel for future fire. In addition, the absence of fire can alter or disrupt the cycle of natural plant succession and the associated habitats that form. Recognizing this, land management agencies are now committed to finding ways, such as prescribed burning, to reintroduce fire into natural ecosystems. In addition, California has extended droughts, which increase dead and dying vegetation, dry fuel per acre volumes, and many days of low humidity. Furthermore, the majority of wildfires in the region are human caused by factors including but not limited to campfires and building fires. This remains true

even before accounting for the crisis of anthropogenic climate change, which exacerbates wildfires. Wildfire increases the potential for runoff and erosion, as fire removes ecological stabilizers such as vegetation and healthy soil. In coastal regions and other areas with steep slopes, scorched land left after a wildfire is particularly susceptible to debris flow and other hazards.

SRAs and LRAs have been mapped in every county in the SCAG region.⁶ The majority of VHFHSZs are located where wildlands meet urbanized areas, usually near large recreation areas.

Los Angeles County

Northern and western Los Angeles County feature vast swaths of wildland areas. The County's largest wildland area is the Angeles National Forest, a 700,000-acre forest that stretches across northern Los Angeles County between Gorman and Mt. Baldy. Much of the forest is marked by dense chaparral shrubs and woodlands. The Santa Monica Mountains National Recreation Area, a 150,000-acre area in the western portion of Los Angeles County, is comprised of several contiguous open space areas, including Malibu Creek State Park, Topanga State Park, and Leo Carrillo State Park. The Woolsey Fire in November 2018 burned 88 percent of all National Park Service acres within the park boundary. Following the Woolsey Fire, a wet winter allowed black mustard plants to quickly establish a presence in the area. This non-native plant quickly dries and provides fuel for future fires.

In Los Angeles County, heavily urbanized areas in the northwest and southern parts of the County are largely excluded from VHFHSZ designations, whereas communities near Topanga State Park and Angeles National Forest are at a much higher risk of wildfire impacts. However, even densely populated areas may be designated as VHFHSZ depending on their proximity to wildlands, such as the highly urbanized area surrounding the Kenneth Hahn State Recreation Area in Los Angeles.⁷

Orange County

Orange County is highly urbanized with wildland areas located primarily in the east and southeast of the county. The largest wildland area is the Cleveland National Forest, a 460,000-acre forest partially located in Orange County along the boundary with Riverside County. The Cleveland National Forest is characterized by chaparral and a warm, dry Mediterranean climate. The South Coast Wilderness Area, located along the Orange County Coast between Newport Beach and Laguna Niguel, is comprised of

⁶ CAL FIRE. *Fire Hazard Severity Zones Maps*. Available online at: <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>, accessed September 7, 2019.

⁷ CAL FIRE. 2007. *Los Angeles County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6705/fhszs_map19.pdf, accessed August 20, 2019.

several contiguous open space areas, including Crystal Cove State Park, Laguna Coast Wilderness Park, and Aliso and Wood Canyons Wilderness Park.⁸ These parks feature rugged coastal canyons, grasslands, and riparian woodlands. Wildfire increases the potential for runoff and erosion, as fire removes ecological stabilizers such as native vegetation and healthy soil and replaces them with invasive plants and debris. In addition, a portion of the 14,173-acre Chino Hills State Park is located in northern Orange County and features chaparral plant communities.

CAL FIRE marks portions of the following cities as VHFHSZs: Aliso Viejo, Anaheim, Brea, Dana Point, Fullerton, Irvine, La Habra, Laguna Beach, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Newport Beach, Orange, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Tustin, Villa Park, and Yorba Linda.

San Bernardino County

Most of San Bernardino County is in an FRA. Thus, fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government. The San Bernardino County Fire Protection District is one of the largest providers of fire protection services in these areas. Due to its dry, desert climate San Bernardino County has limited areas of very high FHSZ. The only very high FHSZs in the county are located in the southwest corner, stretching along the San Gabriel Mountains from the county's western border to Yucca Valley.⁹ Most of the very high FHSZs in San Bernardino County are along its north and northeast edges at the foot of the San Bernardino and San Gabriel mountains; at its southeast margin in the north end of the San Timoteo Badlands; and in the southwest corner of the region in Chino Hills. Nearly the entire Mountain Region is mapped as very high FHSZ, while most of the desert regions are mapped outside of high or very high FHSZs. As of 2019, it is estimated that more than 34,000 residents in the unincorporated county live in very high fire hazard areas, and more than 63,000 live in high fire hazard areas.¹⁰

Imperial County

Imperial County is a predominantly agricultural area and approximately 50 percent of County lands are undeveloped and under federal jurisdiction. The potential for a major fire in the unincorporated areas of the County is generally low.

⁸ CAL FIRE. 2007. *Orange County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6737/fhszs_map30.pdf, accessed August 20, 2019.

⁹ CAL FIRE. 2007. *SW San Bernardino County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6781/fhszs_map62.pdf, accessed August 20, 2019.

¹⁰ San Bernardino Countywide Plan Draft PEIR, June 2019

From the standpoint of fire safety, building and fire codes are the tool most commonly used by local jurisdictions. The County implements the Uniform Building Code (UBC) and the Uniform Fire Code (UFC).^{11,12} The Imperial County Codified Zoning Ordinance also contains provisions which act to reduce fire hazards. The Imperial County Subdivision Ordinance is also used to reduce the risk of fire by securing, as a condition of subdivision of land, water systems of adequate size and pressure for firefighting, and adequate roadway widths for emergency service vehicle access including maneuverability of fire trucks.¹³ Additionally, the County's Fire Prevention and Explosives Ordinance, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. This program enables the public to be better prepared when an emergency fire situation occurs.

Imperial County's Fire Prevention Bureau runs the Imperial County Fire Prevention Program. The purpose of the Imperial County Fire Prevention Program is to assist in preventing injuries, deaths, business interruption and property damages resulting from fires and other emergencies. The Fire Prevention Bureau currently enforces the 2010 California Fire, Building, Electrical, County Ordinances, as amended by the County of Imperial Municipal Code, in addition to National Fire Protection Association standards; Title 19, of the California Public Safety Code; and, the California Health and Safety Code.¹⁴

Imperial County has virtually no VHFHSZ, with only extremely small areas located near the northwest and southwest corners of the county.¹⁵ Similar to Imperial, the eastern half of Riverside County contains essentially no VHFHSZ.¹⁶ The western half of Riverside County, however, is where a significant amount of the county's wildland interface occurs, and a majority of the land is designated VHFHSZ. Lands near the San Bernardino National Forest and the Santa Ana mountains are largely within SRA, while urban

11 Imperial County Municipal Code. *91003.00 – Adoption of the California Building Code*. Available online at: https://library.municode.com/ca/imperial_county/codes/code_of_ordinances?nodeId=TIT9LAUSCO_DIV10BUSE_GRRE_CH3CABUCO_91003.00ADCABUCO, accessed August 21, 2019.

12 Imperial County Municipal Code. *8.20.010 – Findings and adoption of the Uniform Fire Code*. Available online at: https://library.municode.com/ca/imperial_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.20UNFIC_OAD_8.20.010FIADUNFICO, accessed August 21, 2019.

13 Imperial County Planning & Development Services. *Title 9, Division 8: Subdivision Ordinance*. Available online at: http://www.icpds.com/CMS/Media/TITLE9Div8_2014.pdf, accessed August 21, 2019.

14 Imperial County Fire Department & Office of Emergency Services. *Prevention*. Available online at: <https://www.co.imperial.ca.us/firedept/index.asp?fileinc=prevention>, accessed September 7, 2019.

15 CAL FIRE. 2007. *Imperial County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6680/fhszs_map13.pdf, accessed August 20, 2019.

16 CAL FIRE. 2007. *Eastern Riverside County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6749/fhszl06_1_map61.pdf, accessed August 20, 2019.

communities near smaller portions of wildland, such as Terra Cotta and eastern Sun City, are under the jurisdiction of an LRA.¹⁷

Ventura County

Much of Ventura County is considered a VHFHSZ and is primarily located in a SRA. Specifically, the central and northern portions of the County are part of the Los Padres National Forest, accounting for 46 percent of the overall landmass. The forest features semi-arid, chaparral vegetation, which is prone to wildfire. The Fire Hazard Reduction Program is the cornerstone of Ventura County Fire Department's (VCFD) Wildland Fire Action Plan. In partnership with property owners and neighbors, VCFD recommends a 100-foot defensible space radius between structures and vegetation and places restrictions on certain types of vegetation.¹⁸

Several major freeways in Ventura County are located within VHFHSZs, including US-101 between Camarillo and Thousand Oaks, SR-33 between Ventura and Ojai, and SR-118 between Moorpark and Simi Valley. Much of the housing in these cities is located within an urban-wildland intermix area, and as such, wildfires and subsequent evacuations are a concern. In December 2017, the Thomas Fire burned through Ventura and Santa Barbara Counties and was the largest wildfire in California history at the time. The fire spread quickly, destroying hundreds of structures, prompting evacuations, and leading to deadly mudflows after a rainstorm the following month.

Riverside County

With development growing into outlying hill and grassland areas and an increasing number of people owning homes and businesses in Riverside County, wildfires are becoming a growing and catastrophic hazard in the County. As more and more people are moving into areas of wildland-urban interface, the danger for wildfire conditions from the mix of fuels, topography, and accessibility, are posing increasing risks to residents, as well as to fire protection service providers. In some parts of Riverside County, fire danger can be worsened by steep, rugged topography, which would allow wildland fire to spread quickly and make it more difficult to fight.

The Riverside County Hazard Reduction Office, a division within the Riverside County Fire Department, enforces the abatement of hazardous vegetation and abandoned or neglected orchards, groves, and vineyards. The County's Hazard Abatement Program requires property owners to maintain 100 feet of

¹⁷ CAL FIRE. 2007. *Western Riverside County: Fire Hazard Severity Zones in SRA*. Available online at: https://osfm.fire.ca.gov/media/6752/fhszs_map60.pdf, accessed August 20, 2019.

¹⁸ Ventura County Fire Code, Fire Hazard Reduction Program, Appendix W, available online: <https://vcfd.org/images/FHRP/Ord-30-Appendix-W-FHRP.pdf>, accessed September 12, 2019.

defensible space between structures and vegetation. Guidelines on horizontal and vertical spacing of plants and trees are also enforced.

CAL FIRE's recommendations on VHFHSZs for Riverside County bisect the county into an eastern and western portion. Eastern Riverside County is primarily comprised of dry, desert land and is sparsely populated. This region is designated as a Moderate Fire Hazard Severity Zone. Western Riverside County has a greater variety of climates, topography, and flora. The 800,000-acre San Bernardino National Forest is located in this half of Riverside County within a VHFHSZ. At the boundary with Orange County, the Cleveland National Forest is also a designated VHFHSZ. Additionally, several major freeways in Riverside County are located within VHFHSZs, including I-15 between Lake Elsinore and Temecula, I-215 between Sun City and Murrieta, and SR-60 between Moreno Valley and Beaumont.

Climate Change

In the last decade, California has experienced five of the state's 10 largest wildfires and seven of its 10 most destructive fires in its history. Between 2017 and 2018, the State spent over \$1.5 billion on fire suppression, far more than any previous 2-year period. Over the past five decades, summertime forest fires have increased in size by roughly 800 percent. Though no single wildfire can be attributed solely to climate change, evidence shows that the increase in average temperatures statewide is creating conditions more prone to wildfires.¹⁹ Southern California has warmed about three degrees Fahrenheit in the last century, and every additional increment of warming speeds up evaporation, dries out soil and vegetation, and increases the amount of fuel available for a wildfire.²⁰ In 2018, wildfires in California released approximately 68 million tons of carbon dioxide, or about 15 percent of the State's annual emissions.²¹ Studies suggest that greenhouse gas emissions from wildfires create a positive feedback loop, wherein the emissions warm the planet further, leading to more wildfires and more emissions.

19 Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. *Earth's Future*, 7, 892–910. Available online at: <https://doi.org/10.1029/2019EF001210>, accessed September 16, 2019.

20 US Environmental Protection Agency, *What Climate Change Means for California*. Available online at: <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-ca.pdf>, accessed September 16, 2019.

21 US Department of Interior, *Press Release, November 30, 2018*. Available online at: <https://www.doi.gov/pressreleases/new-analysis-shows-2018-california-wildfires-emitted-much-carbon-dioxide-entire-years>, accessed September 17, 2019.

3.20.2 REGULATORY FRAMEWORK

3.20.2.1 Federal

Disaster Mitigation Act (DMA) of 2000

DMA 2000 (Public Law 106-390) provides the legal basis for FEMA mitigation planning requirements for state, local and tribal governments as a condition of mitigation grant assistance. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need for state, local, and tribal entities to closely coordinate mitigation planning and implementation efforts. The requirement for a state mitigation plan is continued as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans. DMA 2000 also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazard Mitigation Grant Program (HMGP) funds available to a state for development of state, local, and tribal mitigation plans.²²

Federal Response Plan

The Federal Response Plan of 1999 is a signed agreement among 27 federal departments and agencies, including the American Red Cross, that (1) provides the mechanism for coordinating delivery of federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency; (2) supports implementation of the Robert T. Stafford Disaster Relief and Emergency Act, as well as individual agency statutory authorities; and (3) supplements other federal emergency operations plans developed to address specific hazards. The Federal Response Plan is implemented in anticipation of a significant event likely to result in a need for federal assistance or in response to an actual event requiring federal assistance under a Presidential declaration of a major disaster or emergency.²³

Federal Emergency Management Agency (FEMA) Regulation

The primary mission of FEMA is to reduce the loss of life and property and protect the nation from all hazards, including natural disasters, acts of terrorism, and other human-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness,

²² FEMA. *Disaster Mitigation Act of 2000*. Available online at: <https://www.fema.gov/media-library/assets/documents/4596>, accessed August 20, 2019.

²³ *Federal Response Plan, April 1999*. Available online at: http://www1.mwco.org/security/security/otherplans/fed_response_sum.pdf, accessed August 21, 2019.

protection, response, recovery, and mitigation.²⁴ SCAG is under the jurisdiction of FEMA Region 9, which covers Arizona, California, Hawaii, Nevada, Guam, American Samoa, Commonwealth of Northern Mariana Islands, Republic of Marshall Islands, Federated State of Micronesia, and more than 150 sovereign tribal entities. In Southern California, FEMA Region 9 specifically plans for hazards such as major earthquakes and wildfires.²⁵

National Fire Plan

The Department of the Interior's National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts to rural communities, and ensure sufficient firefighting capacity in the future.²⁶ The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.²⁷

3.20.2.2 State

Senate Bill 99

In November 2018, the Camp Fire devastated the town of Paradise, California, killing 86 people and destroying nearly 19,000 structures. One reason the Camp Fire was so deadly was the lack of adequate evacuation routes to simultaneously allow residents to leave and first responders to enter. Although modern developments require adequate ingress and egress routes, many existing developments, such as those in Paradise, predate these requirements. SB 99, signed into law on August 30, 2019, requires cities to identify in the safety element of their general plans any residential developments in any wildfire hazard areas that do not have at least two emergency evacuation routes.²⁸

²⁴ Government Publishing Office. *Title 44: Emergency Management and Assistance*. Available online at: <https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5&node=44:1.0.1.4.53>, accessed August 20, 2019.

²⁵ FEMA. *FEMA Region IX: Arizona, California, Hawaii, Nevada, & the Pacific Islands*. Available online at: <https://www.fema.gov/fema-region-ix-arizona-california-hawaii-nevada-pacific-islands>, accessed August 20, 2019.

²⁶ *Wildland Fire Management: The National Fire Plan*. Available online at: https://www.forestsandrangelands.gov/documents/resources/reports/2007/nfp2007_budget_justification.pdf, accessed August 20, 2019.

²⁷ U.S. Fish & Wildlife Services Fire Management. 2009. *Rural Fire Assistance*. Available online at: https://www.fws.gov/fire/living_with_fire/rural_fire_assistance.shtml, accessed August 21, 2019.

²⁸ California Legislative Information. 2019. *Senate Bill No. 99*.

Senate Bill 901

After record-breaking drought in California from 2011 to 2017, perfect wildfire conditions allowed faulty PG&E utility lines to spark devastating fires that would scorch over 4,000 square miles of land across the state. In response to the deadly season, the California Legislature developed Senate Bill 901 (Utility Wildfire Management Plans) as the “centerpiece measure” in its attempt to rectify damages from the 2017 wildfires and prevent future wildfire disasters. SB 901 mandates all electric utilities to prepare and submit wildfire mitigation plans that describe the utilities’ plan to prevent, combat, and respond to wildfires affecting their service territories. The California Public Utilities Commission (CPUC) will review and refine the plans before implementing and enforcing them. In the short-term, SB 901 allows PG&E to lean on its customers in paying for billions of dollars in fire-related damages. It also provides over \$1 billion for vegetation management over five years.²⁹

Assembly Bill 1054 (AB 1054)

AB 1054 was signed into law by Governor Gavin Newsom on July 12, 2019, creating a \$21 billion fund to help California’s investor-owned utilities cover liabilities caused by wildfires. Under the legislation, the state’s investor-owned utilities will put a combined \$5 billion toward improvements in their electrical grids to access the fund. Ratepayers will also contribute \$10.5 billion by way of a 15-year extension of an existing rate increase. The bill also imposes several conditions on utilities, including \$5 billion in safety investments and utility participation in a new annual safety certification process overseen by CPUC.³⁰ The legislation was passed in the wake of the Camp Fire, California’s deadliest and most destructive wildfire in history. Pacific Gas & Electric (PG&E) Corp’s equipment failure was responsible for the blaze. PG&E sought bankruptcy protection after the Camp Fire so it could reorganize its finances to pay \$30 billion in liabilities from multiple wildfires.³¹

Senate Bill 1079 (SB 1079)

SB 1079 (Forest Resources: Fire Prevention Grant Fees) builds from existing laws establishing grants to private entities, Native American tribes, and public agencies to assist in the implementation and administration of projects and programs relating to improving forest health and reducing GHG emissions. SB 1079 authorizes CAL FIRE to make advance payments to grantees (such as fire safe

²⁹ California Public Utilities Commission (CPUC). *Utility Wildfire Mitigation Plans (SB 901)*. Available online at: <http://cpuc.ca.gov/SB901/>, accessed March 29, 2019.

³⁰ California Legislative Information. 2019. *Assembly Bill No. 1054*.

³¹ New York Times. *California Says PG&E Power Lines Caused Camp Fire That Killed 85*. Available online at: <https://www.nytimes.com/2019/05/15/business/pg-e-fire.html>, accessed September 18, 2019.

councils, Native American tribe, or special district), which receive funds from the healthy forest and local fire-prevention grant programs.³²

Senate Bill 1241 (SB 1241)

In 2012, SB 1241 added Section 66474.02 to Title 7 Division 2 of the California Government Code, commonly known as the Subdivision Map Act. The statute prohibits subdivision of parcels designated very high fire hazard, or that are in a SRA, unless certain findings are made prior to approval of the tentative map. The statute requires that a city or county planning commission make three new findings regarding fire hazard safety before approving a subdivision proposal. The three findings are, in brief: (1) the design and location of the subdivision and its lots are consistent with defensible space regulations found in PRC Section 4290-91, (2) structural fire protection services will be available for the subdivision through a publicly funded entity, and (3) ingress and egress road standards for fire equipment are met per any applicable local ordinance and PRC Section 4290. The Occupational Safety and Health Act (29 Code of Federal Regulations [CFR] Parts 70 to 2400), which is implemented by the Federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in 29 CFR Section 1910 et seq., are designed to promote worker safety, worker training, and a worker's right-to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.³³

Assembly Bill 301

Assembly Bill 301 was enacted to amend Section 4213.1, and to add Section 4213.2 to the Public Resources Code related to fire prevention. Section 4213.1 requires CAL FIRE to notify a property owner that the property's terms of sale could include a portion of the Fire Prevention Fee. Section 4213.2 allows a property owner to negotiate a portion of the fee as one of the terms of sale.³⁴

Assembly Bill 38 (California Emergency Services Act)

This bill would require the Natural Resources Agency, by July 1, 2021, and in consultation with the State Fire Marshal and the Forest Management Task Force, to review the regional capacity of each county that contains a very high fire hazard severity zone to improve forest health, fire resilience, and safety, as specified. On or after July 1, 2021, the bill would require a seller of real property located in a high or very high fire hazard severity zone to provide specified documentation to the buyer that the real property is in

³² California Legislative Information. 2018. *Senate Bill No. 1079*.

³³ California Legislative Information. 2012. *Senate Bill No. 1241*.

³⁴ California Legislative Information. 2015. *Assembly Bill No. 301*.

compliance with the wildfire protection measures or a local vegetation management ordinance, or enter into an agreement with the buyer pursuant to which the buyer will obtain documentation of compliance.³⁵

Assembly Bill 2551

Approved in 2018, Assembly Bill 2551 Forestry and Fire Prevention: Joint Prescribed Burning Operation (AB 2551) authorizes CAL FIRE to collaborate with private landowners on controlled burns to reduce wildfire fuel. Mismanagement of the forests can lead to a build-up of forest underbrush that serves as a perfect fuel for wildfires. By allowing small, non-industrial landowners to choose to individually implement various fire prevention programs, such as prescribed burns, AB 2551 promotes good, local forest management in the state.³⁶

State California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year. The Office of the State Fire Marshal supports CAL FIRE's mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention in wildland areas; regulating hazardous liquid pipelines; reviewing regulations and building standards; and providing training and education in fire protection methods and responsibilities.³⁷

State Fire Regulations

Fire regulations for California are established in Sections 13000 et seq. of the California Health and Services Code and include regulations for structural standards (similar to those identified in the California Building Code); fire protection and public notification systems; fire protection devices such as extinguishers and smoke alarms; standards for high-rise structures and childcare facilities; and fire suppression training. The State Fire Marshal is responsible for enforcement of these established

³⁵ California Legislative Information. 2008. *Assembly Bill No. 38*.

³⁶ California Legislative Information. 2018. *Assembly Bill No. 2551*.

³⁷ CAL FIRE Office of the State Fire Marshal. 2019. *About the Office of State Fire Marshal*. Available online at: <https://osfm.fire.ca.gov/about-us/>, accessed August 20, 2019.

regulations and building standards for all state-owned buildings, state-occupied buildings, and state institutions within California.³⁸

California Governor's Office of Emergency Services (OES)

Cal OES is the Emergency Management authority for the State of California. The California Governor's Office of Emergency Services (Cal OES) began as the State War Council in 1943. With an increasing emphasis on emergency management, it officially became OES in 1970. On July 1, 2013, Governor Edmund G. Brown Jr.'s Reorganization Plan #2 eliminated the California Emergency Management Agency (Cal EMA); restored its powers, purposes, and responsibilities to Cal OES; and also merged it with the Office of Public Safety Communications. Cal OES' mission statement is the following: "Protect lives and property, build capabilities, and support our communities for a resilient California." OES goals include:³⁹

- **Goal 1:** Anticipate and enhance prevention and detection capabilities to protect our State from all hazards and threats.
- **Goal 2:** Strengthen California's ability to plan, prepare for, and provide resources to mitigate the impacts of disasters, emergencies, crimes, and terrorist events.
- **Goal 3:** Effectively respond to and recover from both human-caused and natural disasters.
- **Goal 4:** Enhance the administration and delivery of all state and federal funding, and maintain fiscal and program integrity.
- **Goal 5:** Develop a united and innovative workforce that is trained, experienced, knowledgeable, and ready to adapt and respond.
- **Goal 6:** Strengthen capabilities in public safety

California Public Resources Code

Fire Hazard Severity Zones – Public Resources Code Sections 4201–4204 Public Resources Code (PRC) Sections 4201–4204 and Government Code Sections 51175–89 direct CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. FHSZ define the application of various mitigation strategies to reduce risk associated with wildland fires.^{40, 41}

³⁸ California Legislative Information. *Division 12. Fires and Fire Protection.*

³⁹ Governor's Office of Emergency Services. *2014-2018 Strategic Plan Summary.* Available online at: [https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20\(FINAL\).pdf](https://www.caloes.ca.gov/NewsMediaSite/Documents/Cal%20OES%20Strategic%20Plan%20Summary%20Booklet%20(FINAL).pdf), accessed August 20, 2019.

⁴⁰ California Legislative Information. 1982. *ARTICLE 9. Fire Hazard Severity Zone [4201-4204].*

California Fire Code

Part 9 of the 2019 California Building Standards Code (CBC) (Cal. Code Regs., Title 24) covers the California Fire Code (2019, Title 24, Part 9). The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises.

The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety for and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout California. The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas. Several jurisdictions within the SCAG region have adopted the California Fire Code as part of their building regulations.⁴²

California Fire Plan

The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. By placing the emphasis on what needs to be done long before a fire starts, the Fire Plan looks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to ecosystem health. The current plan was adopted in 2018, which reflects CAL FIRE's goals of 1) fire prevention and suppression activities to protect lives, property, and ecosystem services, and 2) natural resource management to maintain the state's forests as a resilient carbon sink to meet California's climate change goals and to serve as important habitat for adaptation and mitigation.⁴³

⁴¹ California Legislative Information. 1992. *CHAPTER 6.8. Very High Fire Hazard Severity Zones [51175-51189]*.

⁴² Building Standards Commission. *California Building Standards Code*. Available online at: <https://www.dgs.ca.gov/BSC/Codes>, accessed August 20, 2019.

⁴³ CAL FIRE. *Strategic Fire Plan for California*. Available online at: <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/fire-plan/>, accessed September 7, 2019.

California Disaster Assistance Act (CDAA)

The California Disaster Assistance Act (CDAA; CCR Title 19, Chapter 6) authorizes the Director of the California Governor’s Office of Emergency Services (Cal OES) to administer a disaster assistance program that provides financial assistance from the state for costs incurred by local governments as a result of a disaster event. Funding for the repair, restoration, or replacement of public real property damaged or destroyed by a disaster is made available when the Director concurs with a local emergency proclamation requesting state disaster assistance.⁴⁴

Governor’s Office of Planning and Research (OPR)

The Governor’s Office of Planning and Research serves the Governor and his Cabinet as staff for long-range planning and research and constitutes the comprehensive state planning agency (Government Code Section 65040). OPR is empowered to draft *CEQA Guidelines* for adoption by the Secretary of Natural Resources in collaboration with the Natural Resources Agency. In January 2018, OPR transmitted its proposal for comprehensive updates to the *CEQA Guidelines* to the Natural Resources Agency, who finalized the updates in late 2018. The updated Guidelines became effective on December 28, 2018.

California Public Utilities Commission Fire Safety Rulemaking

In December 2017, CPUC issued Decision (D.) 17-12-024 adopting regulations to enhance fire safety in the High Fire Threat District (HFTD) and subsequently adopted CPUC’s final fire threat map. This map, together with CAL FIRE’s Tier 1 High Hazard Zones comprise the HFTD Map where stricter fire-safety regulations apply. These regulations include requiring utilities to prioritize safety hazards, maintain more stringent wire-to-wire clearances in certain areas, and prepare a fire prevention plan annually if they have overhead facilities in the HFTD. Further, electric utilities may disconnect service to customers who refuse to provide access to their property for the removal of trees that pose an immediate threat for contacting a power line.⁴⁵

⁴⁴ Governor’s Office of Emergency Services. 2019. *California Disaster Assistance Act (CDAA)*. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/recovery/public-assistance/california-disaster-assistance-act>, accessed August 20, 2019.

⁴⁵ California Public Utilities Commission, Press Release December 14, 2017. *CPUC Adopts New Fire-Safety Regulations*. Available online at: <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352402.PDF>, accessed September 26, 2019.

3.20.2.3 Local

County General Plans

In addition to federal and state requirements, general plans and municipal codes of counties and cities in the SCAG region may include safety elements that goals and policies related protecting people and property from risks from wildfires and associated hazards.

Los Angeles County General Plan

The Safety Element of the Los Angeles County General Plan 2035 Update, in conjunction with the All-Hazard Mitigation Plan prepared by the Chief Executive Office, Office of Emergency Management (CEO OEM), sets strategies for natural and man-made hazards in Los Angeles County.⁴⁶ The 2014 All-Hazard Mitigation Plan, which has been approved by FEMA and Cal OES, includes a compilation of known and projected hazards in Los Angeles County.⁴⁷ Specific applicable goals and policies related to fire hazards within the County of Los Angeles include, but are not limited to:

- Goal S: An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.
- Policy S 3.1: Discourage high density and intensity development in VHFHSZs.
- Policy S 3.2: Consider climate change implications in fire hazard reduction planning for FHSZs.
- Policy S 3.3 Ensure that the mitigation of fire related property damage and loss in FHSZs limits impacts to biological and other resources.
- Policy S 3.5: Encourage the use of low-volume and well-maintained vegetation that is compatible with the area's natural vegetative habitats.
- Policy S 3.8: Support the retrofitting of existing structures in FHSZs to help reduce the risk of structural and human loss due to wildfire.

⁴⁶ County of Los Angeles, Department of Regional Planning. *General Plan 2035, Safety Element*. Available online at: http://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch12.pdf, accessed September 10, 2019.

⁴⁷ County of Los Angeles, Chief Executive Office – Office of Emergency Management. *2014 All-Hazard Mitigation Plan*. Available online at: <https://ceo.lacounty.gov/wp-content/uploads/OEM/hazmitgplan.pdf>, accessed September 8, 2019.

San Bernardino County General Plan

The San Bernardino County General Plan contains a Hazards Element, which addresses wildfires. It mandates the development of Community Wildfire Protection Plans (CWPP) for mountain communities, compliance with the County's Tree Preservation Ordinance, improvements to public notification systems, and the continued monitoring of post-wildfire debris flow hazard evaluation and prediction methodologies. Specific applicable goals and policies related to fire hazards within the County of San Bernardino include, but are not limited to:⁴⁸

- Goal HZ-1: Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by natural environmental hazards and adaptation to potential changes in climate
- Policy HZ-1.2: All new development is required to be built outside of high or very high fire hazard severity zones. For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, mitigation is required.
- Policy HZ-1.7: Underground utilities are required to be designed to withstand seismic forces, accommodate ground settlement, and be hardened to fire risk.

Imperial County General Plan

The Land Use Planning and Public Safety and Emergency Preparedness Elements of the Imperial County General Plan have established goals related to protection of public health and safety for consideration in the land use planning process. The specified goals and objectives are intended to minimize potential hazards to public health and safety and prevent the loss of life and damage to properties and rely heavily on ensuring conformance with established applicable state codes. However, the Plan does not include any goals or policies relating directly to wildfire at this time.⁴⁹

Orange County General Plan

The Safety Element of the Orange County General Plan provides for the protection of people and property from risks associated with hazards, including those affiliated with wildfire, through the implementation of mitigation measures as outlined in the California Emergency Plan, the California Master Mutual Aid Agreement, the Orange County Emergency Plan, the Orange County Operational

⁴⁸ County of San Bernardino. 2014. *2007 General Plan*. Available online at: <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>, accessed August 20, 2019.

⁴⁹ Imperial County Planning & Development Services. 2015. *Land Use Element of the Imperial County General Plan*. Available online at: [http://www.icpds.com/CMS/Media/Land-Use-Element-\(2015\).pdf](http://www.icpds.com/CMS/Media/Land-Use-Element-(2015).pdf), accessed August 20, 2019.

Area Plan, S.O.N.G.S. Plan, County of Orange and Orange County Fire Authority Hazard Mitigation Plan, and other emergency management plans. The Safety Element of the Orange County General Plan focuses primarily upon the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, intentional acts of terrorism and nuclear protection operations. To reduce the County's susceptibility and vulnerability to extraordinary emergency situations, the Safety Element recommends continued emphasis is placed on several coordinated efforts:⁵⁰

- Mitigation
- Emergency planning
- Training of full-time, auxiliary, and reserve personnel
- Public awareness and education; and assuring the adequacy and availability of sufficient resources to cope with such emergencies

In November 2015, the Board of Supervisors adopted a new County of Orange and Orange County Fire Authority Hazard Mitigation Plan (HMP) in compliance with federal and state regulations.⁵¹

The County's Wildland Fire Defense Planning and Prevention oversees its READY! SET! GO! program, which aims to reduce wildland fire risk through a formalized fuel modification inspection and enforcement program, and monitors wildland and vegetation conditions to identify potential hazards, ensuring communities in the wildland urban interface areas are better protected from the risk of wildland fire. Specific applicable goals and policies related to fire safety within the Safety Element of the Orange County General Plan are:

Goal 1: Provide a safe living environment, ensuring adequate fire protection facilities and resources to prevent and minimize the loss of life and property fire.

Policy 1: To encourage periodic updating of fire hazard mapping and continue to analyze existing fire hazard data as it pertains to Orange County.

Policy 13: To improve emergency response times for emergency responders through the use of computer-aided dispatch system and "preempt traffic signal control" system.

⁵⁰ Orange County Planning & Development. *General Plan: Chapter IX. Safety Element*. Available online at: <https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40234>, accessed August 20, 2019.

⁵¹ County of Orange, Orange County Fire Authority. 2015. *Local Hazard Mitigation Plan*. Available online at: https://www.smwd.com/DocumentCenter/View/2193/APPENDIX-H_OC-HMP-Final, accessed August 20, 2019.

Ventura County General Plan

The Safety Element of the Ventura County General Plan contains specific goals to minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from fire hazards and wildfire. Additionally, the Plan identifies areas with high fire hazard severity zones and lists specific management practices to protect those who currently live within such a zone, and prepare appropriate development and management in the future. Specific policies related to fire hazards within Ventura County include, but are not limited to:⁵²

- Minimize the risk of loss of life, injury, damage to structures, and economic and social dislocations resulting from fire hazards.
- Ensure that development in high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards.
- Require at least two means of access for emergency vehicles and resident evacuation for new residential subdivisions, except if otherwise permitted by County Fire Chief.

City General Plans

The SCAG region spans six counties and 191 cities, each of which has a general plan that contains policies related to hazards, including those related to fires. Additional plans and ordinances at the master plan level, city-level, and specific plan level may also apply within the SCAG region. Furthermore, fire departments and other agencies in the SCAG region have a variety of local laws that regulate reporting, storage, handling, and transporting hazardous substances and materials.

3.20.3 ENVIRONMENTAL IMPACTS

3.20.3.1 Thresholds of Significance

For the purposes of this PEIR, SCAG has determined that adoption and/or implementation of the Plan could result in significant adverse impacts related to wildfire risk, if transportation projects and anticipated development projects are located in or near SRAs or lands classified as very high hazard severity zones and would result in any of the following:

⁵² Ventura County. 2019. *2040 General Plan: Preliminary Public Review Draft*. Available online at: https://vc2040.org/images/2040_General_Plan_Files_-_May_2019/PPRD_2040_General_Plan_COMPLETE-compressed.pdf, accessed August 20, 2019.

- Substantially impair an adopted emergency response plan or emergency evacuation plan (this criterion is addressed in **Section 3.17, Transportation, Traffic, and Safety**);
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

In addition, the following criterion from **Section 3.9, Hazards and Hazardous Materials**, is addressed along with wildfire:

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

3.20.3.2 Methodology

The methodology for determining the significance of the Plan's impacts to wildfire response and related hazards and infrastructure compares the existing conditions to future (2045) conditions. Wildfire conditions and hazards within the SCAG region were evaluated at the programmatic level of detail, in relation to the general plans of the six counties and 191 cities within the SCAG region; the management plans for the four national forests in the SCAG region, Angeles National Forest, San Bernardino National Forest, Los Padres National Forest, and Cleveland National Forest; the California Department of Forestry and Fire Protection, and a review of related literature germane to the SCAG region.

The Plan includes transportation projects as well as regional transportation and land use strategies. Although land use development is anticipated to occur within the region even without the Plan, Connect SoCal includes regional land use strategies that could influence growth, including distribution patterns, throughout the region. This analysis considers the Plan's impacts on wildfire hazards, provides mitigation measures, where necessary, and addresses the environmental effects related to wildfire hazards. The potential for impacts related to wildfire was assessed by evaluating the location of existing and planned major transportation projects in relation to surrounding land uses and fire hazard severity zones. Because some transportation projects and growth under the Plan could be located in or near SRAs or lands classified as very high hazard severity zones, all potential wildfire impacts are analyzed below.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by lead agencies and project sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

3.20.3.3 Impacts and Mitigation Measures

Impact WF-2 Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Impact HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Significant and Unavoidable Impact - Mitigation Required.

The SCAG region is susceptible to wildfires particularly during the summer and fall seasons, especially during Santa Ana wind conditions. Examples of recent fires in the SCAG region include the October 2019 Getty Fire in Los Angeles which was sparked by a tree branch that broke off and landed on nearby powerlines, and the December 2017 Thomas Fire sparked by two power lines touching. Both fires were ignited during strong Santa Ana wind conditions.^{53,54} Wildfires have the potential to occur not only in fire-prone undeveloped areas, but also in developed areas where existing transmission lines, lightning strikes, lawn equipment operated over dry grass, fireworks, and even arson may ignite a wildfire. While the urban and developed areas of Riverside, San Bernardino, Imperial, and Ventura counties, may include fire resistant and drought tolerant plants that offer some protection to existing structures, these counties also have more undeveloped areas susceptible to wildfire risks than Los Angeles and Orange counties. According to the Fire Hazard Severity Zones for the area, the rural areas in the SCAG region

⁵³ Los Angeles Times. *DWP power lines hit by tree branch sparked Getty fire that destroyed homes*. Available online at: <https://www.latimes.com/california/story/2019-10-29/getty-fire-arson-investigation>, accessed October 30, 2019.

⁵⁴ Los Angeles Times. *Southern California Edison power lines sparked deadly Thomas fire, investigators find*. Available online at: <https://www.latimes.com/california/story/2019-10-29/getty-fire-arson-investigation>, accessed October 30, 2019.

range from Moderate to Very High under the State’s Wildfire Hazard Severity Zones.⁵⁵ Population in the SCAG region is expected to grow by 3.2 million people by 2045 and SCAG estimates that an additional 343,000 people and 154,300 dwelling units would be in areas at risk of wildfire (very high fire hazard severity zones). The Plan recognizes inherent constraints to expansive regional growth, and areas that are susceptible to natural hazards and a changing climate must be recognized. Because of this, Connect SoCal sets forth land use strategies that encourage conservation of farmland, resource areas and habitat corridors, and guide growth away from lands that are vulnerable to wildfire, flooding and near-term sea-level rise.

During peak wildfire season where high winds and low humidity may occur, electrical utilities may preemptively shut off power to customers in wildfire-prone areas as a precautionary measure. For example, Southern California Edison began this practice in 2017 and notifies customers two days in advance. At the direction of CPUC, customers who live in high fire risk areas, as defined by CPUC maps, are more likely to experience a power shutoff.⁵⁶

The ongoing crisis of climate change has worsened wildfire conditions in California and the SCAG region. Since the early 1970s, California's annual wildfire extent increased fivefold, punctuated by extremely large and destructive wildfires in 2017 and 2018. This trend was mainly due to an eightfold increase in summertime forest-fire area and was very likely driven by drying of fuels promoted by human-induced warming.⁵⁷ Since climate change makes droughts more frequent and severe and makes temperatures warmer in California, the drying of fuels is likely to continue worsening conditions in wildfire-prone areas of the SCAG region.

Wildfires pose a significant public health risk due to their air quality impacts, particularly with regard to smoke and particulate matter exposure. This risk persists even after a wildfire is extinguished because particulate matter from fire ash can be picked up by winds. In addition, as discussed in **Section 3.8, Greenhouse Gases**, wildfires release substantial amounts of greenhouse gases.

Connect SoCal’s land use strategies deemphasize development on agricultural lands in unincorporated counties, and in areas subject to future two-foot sea level rise. To further prioritize natural habitat areas

⁵⁵ CAL FIRE. *Fire Hazard Severity Maps*. Available online at: <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>, accessed September 8, 2019.

⁵⁶ Southern California Edison. *Public Safety Power Shutoffs*. Available online at: <https://www.sce.com/safety/wildfire/psps>, accessed September 26, 2019.

⁵⁷ Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. *Earth's Future*, 7, 892–910. Available online at: <https://doi.org/10.1029/2019EF001210>, accessed September 10, 2019.

and avoid impacts to the environment, Connect SoCal’s strategies seek to avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains. The Plan includes greenbelts and community separators to serve as contiguous areas that support land conservation. Creating a sustainable, “green” region requires that the built environment and natural resource areas coexist in a well-balanced land use pattern that encourages mutual co-benefits. The quality and range of conservation, natural and agricultural areas present in the region can be reinforced and enhanced by a range of regional and local tools. Paired with an emphasis on compact development, Connect SoCal’s conservation strategies promote the economic and ecological benefits of preserving natural areas and farmlands, while also maximizing their potential for greenhouse gas reduction. New housing and employment development is emphasized in Growth Priority Areas, such as Job Centers, TPAs, HQTAs and NMAs, and away from natural and farm lands on the edges of urban and suburban areas, to incentivize infill development and the concentration of varied land uses. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per-capita greenhouse gas emissions. In addition, natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of GHG emissions. Natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Furthermore, wildfire-prone areas tend to pose accessibility challenges for vehicular access points due to topography. These roads could face more gridlock in the event of a sudden emergency evacuation than flat, urbanized areas may experience. Such circumstances could expose vehicle occupants to active flames and potential death, as was seen in the recent Camp Fire in Paradise and the Woolsey Fire in Malibu in 2018.⁵⁸ Transportation projects and anticipated development projects may be located in wildfire-prone areas which could potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly those populations living down wind of the fire. As such, impacts would be significant and unavoidable. Mitigation is required.

Mitigation Measures/

SCAG Mitigation Measures

SMM WF-1: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best

⁵⁸ New York Times, *Forced Out by Deadly Fires, Then Trapped in Traffic*. Available online at: <https://www.nytimes.com/2018/11/11/us/california-fire-paradise.html>, accessed September 18, 2019.

practices for safe land management) with county and city planning departments. Furthermore, SCAG shall examine wildfire risk management strategies in areas where at-risk critical electrical infrastructure is located based on CPUC and CAL FIRE maps.

- SMM WF-2:** SCAG, in partnership with technical experts and stakeholders shall launch or continue existing initiatives to help local cities and counties to protect Southern California communities and economies from the disruption of wildfire occurrences. Initiatives could include but not be limited to seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.
- SMM WF-3:** SCAG shall develop a regional resilience program and identify specific strategies to reduce vulnerabilities from natural disasters related to land based or atmospheric hazards, climate change, wildfire and other extreme weather events.

Project Level Mitigation Measures

- PMM WF-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:
- a) Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition.
 - b) Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place.
 - c) Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary.
 - d) Improve, and educate regarding, local emergency communications and notifications with residents and businesses.
 - e) Enforce defensible space regulations to keep overgrown and unmanaged vegetation,

accumulations of trash and other flammable material away from structures.

- f) Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place

Level of Significance after Mitigation

As discussed above, regulations and polices would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and polices designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and lack of project-specific detail, including project locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to exacerbating wildfire risk and exposure of residents to pollutants could be significant and unavoidable even with implementation of mitigation.

Impact WF-3 Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risks or that may result in temporary or ongoing impacts to the environment.

Significant and Unavoidable Impact - Mitigation Required.

The SCAG region is a mix of urban and rural communities, natural woodland areas, as well as semi-desert areas. Future development and/or re-development in these areas has the potential to require the installation of new roadways or infrastructure facilities such that there is an increased risk of new ignition sources generating the spread of wildfires. Areas with dry vegetation have the potential to exacerbate wildfire risk due to future development activities that could generate flammable debris piles. This is particularly true in the rural and underdeveloped parts of the SCAG region. Future roadway and development construction in such areas, while likely to be less in the future, may still occur, such development has the potential to result in significant impacts as a result of construction equipment generating sparks or oil spill and other combustible materials leading to the start and spread of wildfires. Newer electrical equipment providing power to any new homes developed in fire prone areas is anticipated to be fitted with fire-safe devices, but hazards may remain as a result of electricity infrastructure as well as common fire hazards associated with human habitation.

The Plan includes land use strategies that encourage further development in urban areas. As discussed above, natural lands conservation has the co-benefit of protecting communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding.

Nonetheless, it is expected that new development will also occur in rural or suburban areas which may have a greater wildfire risk. Increased development, in combination with a push for more electrical infrastructure (e.g., SB 100), may result in increased wildfire risk due to power lines. SCE maintains a policy to shut off power to its lines during high wildfire probability events (i.e., when conditions are such that wildfire is a high probability) which would help to reduce potential impacts.⁵⁹ In addition, many local jurisdictions and plans require undergrounding of electrical infrastructure which also helps to reduce risk of wildfire. Due to the anticipated number of greenfield areas that would be converted to other land uses under the Plan, development may continue to occur in urban/wildlands interface areas which would necessitate infrastructure such as power poles that could result in wildfire risk. As such, significant impacts would occur and mitigation measures are required.

Mitigation Measures

SCAG Mitigation Measures

See **SMM-WF-1, SMM WF-2, SMM AG-4, and SMM BIO-3.**

Project Mitigation Measures

See **PMM HAZ-4.**

PMM WF-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) New development or infrastructure activity within very high hazard severity zones or SRAs shall be required to
 - 1) Submit a fire protection plan including the designation of fire watch staff;
 - 2) Maintain water and other fire suppression equipment designated solely for firefighting on site for any construction and maintenance activities;

⁵⁹ Southern California Edison. *Public Safety Power Shutoff*. Available online at: <https://www.sce.com/safety/wildfire/psps>, accessed October 30, 2019.

- 3) Locate construction and maintenance equipment in designated “safe areas” such that they do not discharge combustible materials; and
- 4) Designate trained fire watch staff during project construction to reduce risk of fire hazards.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts, but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this EIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG’s lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to installation of infrastructure that could exacerbate fire risks could be significant and unavoidable even with implementation of mitigation.

Impact WF-4 Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope stability, or drainage changes.

Significant and Unavoidable Impact - Mitigation Required.

Wildfires are becoming more and more common and intense in all areas within the SCAG region. While the Plan focuses development in urban and compact areas, SCAG recognizes there will continue to be development towards, and through natural wildland areas. The Plan estimates consumption of 41,546 greenfield acres and identifies and additional 154,300 housing units in very high fires hazard zones by 2045. These potential fire-prone spaces have created situations where people and property could be impacted by wildfire and associated subsequent hazards (flooding, landslides, etc.). As discussed in **Section 3.10, Hydrology and Water Quality**, in Southern California, intense rainfall may occur during the winter months, creating natural flooding events when the ground is saturated and water levels are high. This has the potential for flooding issues, and fire hazards may exacerbate such flooding and debris flows along waterways. Since debris flows may occur quickly and without warning, such flows can damage structures, block drainage or even sweep away vegetation resulting in tenuous post-fire slope stability. Fast moving debris flows can be one of the most dangerous post-fire hazards. Due to the loss of vegetation and potential resulting soil erosion, debris flows may cause a risk to life and physical property, destroy or strip vegetation, block existing drainage patterns, and impact roadways and other

infrastructure. If this were to occur within the 100-year floodplain areas, existing flow conditions may be altered, or new sources of flooding may be created. This has the potential to alter peak flow conditions and affect upstream, as well as downstream areas. Typically, debris flow from fire damaged areas may be a result of excessive rainfall runoff and surface erosion, since previously-burned slopes repel water and generate higher runoff rates. This can be especially true in the higher elevation areas, with steep slopes and limited drainage basins. Post-fire debris flows are typically triggered by heavy rainfall in areas already damaged by recent wildfire events, and susceptible to soil erosion.

Debris flows could affect both the transportation network, utilities, and new development. In December 2018, the Thomas Fire burned through Ventura and Santa Barbara Counties, leading to loss of vegetation and soil erosion along sloped hillsides. Subsequently, a strong storm poured five inches of rain onto charred hillsides over a short period of time on January 9, 2019. The storm resulted in deadly mudslides, caused extensive property damage, and caused the closure of US-101 for nearly two weeks.^{60,61} A similar incident occurred in Malibu as a result of a mudslide following the Woolsey Fire, which forced the closure of a 13-mile stretch of Pacific Coast Highway.⁶² Furthermore, mudflows could expose people to hazards posed by ruptured methane gas pipelines, as occurred in Burbank in January 2018 following the La Tuna Fire of September 2017.⁶³ Development of homes and infrastructure is anticipated to continue to occur in areas of the region that are subject to wildfire hazards, despite the Plan's focus on adding development to existing urban areas. Due to the anticipated increased consumption of greenfields under the Plan, development may continue to occur in urban/wildlands interface areas which would result in significant risks for people and structures. Therefore, the impacts would be significant and unavoidable, requiring mitigation.

Mitigation Measures

SCAG Mitigation Measures

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- ⁶⁰ NASA, *NASA Calculated Heavy Rainfall Leading to California Mudslides*. Available online at: <https://www.nasa.gov/feature/goddard/2018/nasa-calculated-heavy-rainfall-leading-to-california-mudslides>, accessed September 18, 2019.
- ⁶¹ Ventura County Star, *Highway 101 reopens in Montecito after long closure from deadly mudslide*. Available online at: <https://www.vcstar.com/story/news/local/communities/ventura/2018/01/21/highway-101-reopens-montecito-after-long-closure-deadly-mudslides/1052292001/>, accessed September 18, 2019.
- ⁶² ABC Los Angeles, *PCH could stay closed until Tuesday near Malibu after mudslides*. Available online at: <https://abc7.com/weather/pch-could-stay-closed-until-tuesday-after-mudslides/5024931/>, accessed September 18, 2019.
- ⁶³ CBS Los Angeles, *Evacuation Orders Lifted for Burbank Neighborhood, Still In Place For La Tuna Canyon*. Available online at: <https://losangeles.cbslocal.com/2018/01/11/evacuation-orders-lifted-burbank/>, accessed September 18, 2019.

See SMM-WF-1, SMM WF-2, SMM HYD-3, SMM GEO-1 and SMM GEO-2.

Project Level Mitigation Measures

See PMM WF-1, PMM WF-2, PMM HYD-1 and PMM HAZ-4.

Level of Significance after Mitigation

As discussed above, regulations and policies would reduce impacts but given the regional scale of the analysis in this PEIR, it is not possible to determine if all impacts would be fully mitigated by existing regulations and policies. Therefore, this PEIR identifies project-level mitigation measures consistent with applicable regulations and policies designed to reduce impacts. Lead Agencies may choose to include project-level mitigation measures in environmental documents as they determine to be appropriate and feasible. However, because of the regional nature of the analysis and the lack of project specific-detail, including project components and locations, and SCAG's lack of authority to impose project-level mitigation measures, this PEIR finds impacts related to exposing people and structures to significant risks, as a result of runoff, post-fire slope stability, and drainage changes could be significant and unavoidable even with implementation of mitigation.

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3.21 CUMULATIVE IMPACTS

Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. CEQA defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (*State CEQA Guidelines* § 15355). “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (*State CEQA Guidelines* § 15065(a)(3)).

The purpose of a cumulative analysis is to determine if several projects when evaluated together could result in a significant “cumulative” impact that would otherwise not be considered significant when projects are evaluated one at a time. If several projects considered together have the potential to result in a significant cumulative impact (that is not already identified as a significant project impact), the question becomes whether the project being analyzed would result in a “considerable” contribution to such a significant cumulative impact. Therefore, if a project results in a significant impact by itself, then its contribution to a cumulative impact is considerable. Mitigation measures that reduce project impacts would similarly reduce a project’s contribution to cumulative impacts.

Connect SoCal is a planning project that is comprised of multiple other planning projects as well as transportation and development projects. Therefore, the analysis of the Plan is cumulative in nature. At this regional-scale, cumulative projects that are considered cumulative to and similar to the proposed Plan are other regional-scale projects primarily consisting of RTPs/SCSs for adjacent jurisdictions and AQMPs.

The proposed Plan includes transportation projects throughout the SCAG region and land use development patterns to accommodate projected regional growth through 2045. The Plan also includes land use and transportation strategies that complement the projects and vice versa. As such, the impacts of Connect SoCal is cumulative on a regional scale. Therefore, the environmental analysis included in each issue area of this PEIR is, in essence, a cumulative analysis of the potential impacts of the transportation projects and growth anticipated to occur under the Plan. Furthermore, this PEIR considers other regional-scale projects that have similar regional-scale impacts that could overlap with impacts of the Plan, for identified CEQA impact areas. Such regional scale cumulative projects include RTPs and similar regional-scale plans for neighboring jurisdictions (Santa Barbara, Kern and San Diego counties) as well as Air Quality Managements Plans within the SCAG region and neighboring jurisdictions.

CEQA allows for analysis of cumulative impacts based on a list of cumulative projects or projections of growth. This PEIR uses a combination of approaches. The analysis of cumulative impacts is qualitative and based on anticipated growth in adjacent jurisdictions assuming that each jurisdiction will adopt an RTP and AQMP as applicable and that growth will be consistent with Department of Finance (DOF) forecasts.

Cumulative impacts occur in one of two ways: 1) impacts from one project overlap with impacts from another project, so for example with respect to the Plan, traffic from within the SCAG region could overlap with traffic from an adjacent county to impact the same transportation facilities (the SCAG Regional Travel Demand Model accounts for travel from adjacent jurisdictions); 2) the other way that cumulative impacts occur is when a resource is of value to a broader community than just the immediate project vicinity, for example, impacts to a cultural or biological resource that has more than local significance, for example state or even national significance, impacts to such a resource would be cumulative with impacts to other resources of similar significance wherever they occur in the state or across the entire US.

The geographic area for evaluation of cumulative impacts is the area within which impacts of the proposed Plan could overlap with impacts of other regional-scale projects. In general, the areas that could experience overlapping impacts are on the periphery of the region where growth from the Plan and growth in accordance with other plans could occur and result in overlapping impacts.

The potential for cumulative or overlapping impacts is contemplated at four basic geographies, the SCAG region, adjacent jurisdictions, the state, and global (see **Table 3.21-1, Cumulative Impact Analysis Geographies**). Although there is some potential for categories to overlap, for example, recreational impacts may occur at the SCAG regional geography as well as the adjacent county and state level.

For purposes of the cumulative analysis, the qualitative discussion identifies how impacts could overlap; **Table 3.21-1** provides an approximate guide of the primary focus of the cumulative analysis and is not intended to limit the geography of a particular cumulative analysis where impacts may overlap at a number of levels.

**Table 3.21-1
Cumulative Impact Analysis Geographies**

SCAG Region	Adjacent Jurisdictions (San Diego, Santa Barbara, Kern)	State of California	Global
Air Quality -- Localized Impacts	Air Quality – Regional Impacts	Agriculture and Forestry Resources	Greenhouse Gases
Biological Resources	Biological Resources	Public Services – Park and Recreation (Regional Facilities)	Paleontological
Cultural Resources	Cultural Resources	Solid Waste Wastewater	
	Transportation and Traffic	Water Supply	
Noise	Public Services – Fire, Police, Schools, Libraries, Parks and Recreation (Local Facilities)	Energy	
	Aesthetics	Mineral Resources	
	Noise	Tribal Cultural Resources	
	Hazards and Hazardous Materials	Biological Resources	
	Hydrology and water quality	Paleontological	
	Population and Housing	Transportation	
	Land Use and Planning		
	Mineral Resources		
	Wildfire		

Source, Impact Sciences, 2019

3.21.1 AESTHETICS

Connect SoCal includes transportation projects and land use strategies that would shape the region over the next 25 years. As discussed in **Section 3.1, Aesthetics**, these changes include the extension of transportation and related infrastructure and expansion of urbanized areas that would impact scenic resources. Transportation projects could facilitate access not only within SCAG boundaries but also to areas outside the region. In addition, Plan projects would connect with projects outside the region facilitating and potentially inducing construction of transportation infrastructure and development outside the region. Some of these changes would be expected on the fringe of the region (e.g. projects along the border of Los Angeles and Kern Counties). Urbanization or loss of these visual resources could also affect areas outside the region as many of these scenic areas extend beyond SCAG borders. As a result, the Plan could indirectly cause changes to the visual character or to scenic areas outside the region. Therefore, the Plan would contribute to cumulative impacts to scenic resources and visual character. Implementation of **Mitigation Measures SMM AES-1 and PMM AES-1 through PMM AES-2** would

reduce potential impacts to aesthetic resources. However, even with the implementation of mitigation measures, impacts are considered significant and could add to such impacts from cumulative projects (for example other RTPs for surrounding jurisdictions) outside the region.

3.21.2 AGRICULTURE AND FORESTRY

Under the Connect SoCal Plan, consumption of farmland is anticipated. These impacts would be the direct result of either implementation of transportation projects or development anticipated to occur due to projected growth under the Plan. As discussed in **Section 3.2, Agriculture and Forestry Resources**, impacts to agricultural and forestry resources from the Plan are considered significant and unavoidable. Loss of farmland would worsen the conversion of agricultural lands due to urbanization throughout the state. The 2015 California Farmland Conversion Report ranks the Southern California region at the top in net acres converted to urban land, with Riverside County ranked second at the county level.¹ The Southern California and San Joaquin Valley regions accounted for the largest urban growth in terms of acreage.² Implementation of **Mitigation Measures SMM AG-1**, through **SMM AG-4** and **PMM AG-1** would reduce impacts, but as other California regions continue to urbanize, agricultural land in the state may continue to be lost due to land use conversion, contributing to cumulative statewide significant impacts.

The Plan has the potential to conflict with Williamson Act lands or existing zoning for agricultural use. **Mitigation Measures SMM AG-1** through **SMM AG-2** and **PMM AG-1** through **PMM AG-2** would reduce impacts, but they are still considered significant. As noted above, through the increasing urbanization, other regions adjacent to SCAG boundaries may also convert agricultural lands to urban uses and conflict with existing zoning.

The Plan would have a significant impact regarding forest lands. Transportation projects included in the Plan that would result impact to forest lands include highway expansion, highway widening projects, and potential connectors. Projects in adjacent regions could convert forestry resources and forest lands due to development, resulting in cumulative impacts.

The Plan would involve other changes in the environment which, due to their location or nature, could convert Farmland to non-agricultural use or conversion of forest land to non-forest use. Implementation of **Mitigation Measures SMM AG-1** through **SMM AG-2** as well as **SMM GHG-1** through **SMM GHG-**

¹ California Department of Conservation. 2015. *California Farmland Conversion Report 2015*. Available at: https://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2010-2012/FCR/FCR%202015_complete.pdf, accessed November 5, 2019.

² Ibid.

5 and **PMM AG-2** as well as **PMM GHG-2** would reduce impacts, but they are still considered significant. As development pressure from conversion of Farmland to urban uses increases, lands adjacent to SCAG boundaries may feel the same indirect pressure to develop and convert lands. Therefore, there would be a significant cumulative impact.

3.21.3 AIR QUALITY

Connect SoCal is a regional plan that integrates transportation investments with land use strategies for the SCAG region. As such, the analysis of air quality impacts presented is inherently cumulative. As discussed in **Section 3.3, Air Quality**, the Plan would result in significant impacts as a result of short-term emissions of criteria pollutants and as a result of sensitive receptors being in proximity to sources of TACs (**Impact AQ-4**). However, the Plan could also contribute to air quality impacts outside the SCAG region itself. The cumulative analysis impact area for air quality consists of air basins that extend beyond the SCAG boundaries, such as the Mojave Desert Air Basin that extends into Kern County. Implementation of the Connect SoCal Plan combined with cumulative development outside of the SCAG region would add to the significant air quality impacts of the Plan.

Implementation of **Mitigation Measures SMM AQ-1** through **SMM AQ-3** and **PMM AQ-1** through **PMM AQ-3** would reduce the contribution to cumulative air quality impacts; however, the Plan's impacts would remain significant and would add to the impacts of other RTPs in surrounding jurisdictions.

3.21.4 BIOLOGICAL RESOURCES

As discussed in **Section 3.4, Biological Resources**, Connect SoCal would result in impacts to sensitive species as well as habitat fragmentation and loss and disturbance. Implementation of **Mitigation Measures SMM BIO-1** through **SMM BIO-2** and **PMM BIO-1** through **PMM BIO-6** would reduce impacts to biological resources but impacts would remain significant. Many of these impacts would be the direct result of either transportation improvements or development. Impacts to sensitive species, as well as loss of habitat and habitat fragmentation would contribute to similar statewide impacts. Many important habitat corridors cross the SCAG region's boundaries. As a result, the loss of an important corridor, or fragmentation of habitat could limit the movement of wildlife species resulting in additional cumulative impacts. Similarly, fragmentation could reduce the viability of a species beyond the plan area. Therefore, the significant impacts to biological resources anticipated to result from transportation and development projects occurring under the Plan would contribute to cumulative biological resources impacts outside of just the SCAG region, including effects throughout California.

3.21.5 CULTURAL RESOURCES

The Plan includes transportation projects and land use strategies that will shape the region over the next 25 years. As discussed in **Section 3.5, Cultural Resources**, these changes include the extension of transportation and related infrastructure that would impact cultural resources through activities such as demolition of historical resources or indirect impacts such as changing the historic context of the resource. In addition, Plan projects will connect with projects outside the region, thereby facilitating and potentially inducing construction of transportation infrastructure outside the region. This additional infrastructure could lead to additional development, both inside and outside the region. Plan impacts would add to cultural resource impacts of cumulative projects (transportation projects and development in accordance with RTP plans of adjacent jurisdictions). Implementation of **Mitigation Measures SMM CULT-1** and **PMM CULT-1** and **PMM CULT-2**, would reduce the contribution to cumulative impacts to cultural resources. However, the Plan would still result in significant impacts to historical resources as well as archaeological resources and would contribute to significant cumulative impacts. Although in general cultural and historical impacts are specific to a smaller area (region), there is the potential for the project to contribute to impacts in adjacent counties.

3.21.6 ENERGY

Impacts to energy related to implementation of the Plan are analyzed in **Section 3.6, Energy**. The increase in energy demand that is anticipated to occur as population increases in the SCAG region would contribute cumulatively to state increases in energy consumption. The state population is anticipated to continue to grow throughout the implementation period of the Connect SoCal Plan, reaching over 47 million by 2045.³ Inland areas within the state will grow at higher rates, as the Inland Empire, San Joaquin Valley, and the Sacramento region experience faster growth.⁴ The population growth reflects California's increasing energy demand, with the lowest 2030 estimates indicating an annual consumption demand of 326,026 GWh.⁵ Transportation energy demand will see significant changes in response to increasing vehicle electrification, higher vehicle fuel economy, and hydrogen fuel demand. Although California's population and economy are expected to grow, gasoline consumption is projected to decline by 2030.⁶ Diesel demand and demand for hydrogen fuel will continue to rise during same period.⁷ The

³ California Department of Finance. 2019. *Total Estimated and Projected Population for California and Counties: 1-Year Increments*. Available at: <http://www.dof.ca.gov/Forecasting/Demographics/Projections/>, accessed November 6, 2019.

⁴ Public Policy Institute of California. 2016. *California's Future*. Available at: https://www.ppic.org/content/pubs/report/R_116HI3R.pdf, accessed November 6, 2019.

⁵ California Energy Commission. 2018. *California Energy Demand 2018-2030 Revised Forecast*. Available at: https://www2.energy.ca.gov/2017_energy_policy/documents/, accessed November 6, 2019.

⁶ California Energy Commission. 2017. *Transportation Energy Demand Forecast, 2018-2030*.

various counties and cities within the SCAG region, in accordance with state law, will require the implementation a variety of energy efficiency measures to decrease energy consumption as a means to reduce GHG emissions. The Plan aims to reduce energy consumption and GHG emissions, and would comply with the state's goals, as adjacent counties' regional plans would also comply with state goals. Energy impacts would be less than significant. Therefore, the Plan would not cumulatively contribute to wasteful, inefficient, or unnecessary consumption of energy resources.

3.21.7 GEOLOGY AND SOILS

Impacts to geology and soils related to implementation of the Plan are analyzed in **Section 3.7, Geology and Soils**. The SCAG region extends primarily over four California geomorphic provinces: the Mojave Desert, the Transverse Ranges, the Peninsular Ranges, and the Colorado Desert.⁸ These geomorphic provinces include several active faults, and they extend beyond SCAG's boundaries to neighboring counties. However, geologic effects occur independently of one another and are related to site-specific and project-specific characteristics and conditions. In addition, existing regulations specify mandatory actions that must occur during project development, which would adequately address the potential for effects from construction or operation of projects related to exposure to seismic hazards. Since the implementation of the Plan would not exacerbate existing geologic hazards including fault rupture, in addition to the fact that there are already numerous regulations in place to reduce such risks to any planned development or transportation project, geologic impacts would be less than significant and the Plan would not result in a considerable contribution to cumulative impacts.

The paleontology of the SCAG region is as equally diverse as the geologic diversity. The Plan's ground disturbing activities would potentially impact paleontological resources. Ground-disturbing activities such as excavation for building foundations and bridges, trenching for utility lines, tunneling, and grading, could damage or destroy sensitive paleontological resources on or near the surface or at depth. Implementation of **Mitigation Measures SMM-GEO-3** and **PMM-GEO-1** would reduce the level of impacts but would still be considered significant. Paleontological resources, and important paleontological finds may still occur. For example, in 2005 a Mammoth was discovered in the City of Moorpark. The fossils were dated as between 400,000 and 1.8 million years old. Such finds, while locally important, provide important contextual information to the state's history and beyond. The loss of such resources would be cumulatively considerable.

⁷ Ibid.

⁸ California Geological Survey. 2002. *California Geomorphic Provinces*. Available online at: https://www.conservation.ca.gov/cgs/Documents/Note_36.pdf, accessed June 12, 2019.

3.21.8 GREENHOUSE GASES

In general, GHG emissions analyses are by nature cumulative as impacts from GHG emissions are global, and there is currently no method to tie local impacts to specific sources. Emissions from any single project mix in the atmosphere and contribute to local, regional, and global impacts over long periods of time. Consequently, any project specific GHG analysis is inherently a cumulative analysis. The analysis presented in **Section 3.8, Greenhouse Gases**, is also a cumulative analysis in that it considers the entire SCAG region as the project site, includes all growth in residential and commercial space as well as region-wide vehicle traffic, and compares these impacts to statewide plans and regulations. In this way, it includes all projects of a similar nature and compares the total impact to regional thresholds. Adjacent jurisdictions in preparing their RTPs will similarly evaluate GHG emissions; in addition, air quality management districts will evaluate emissions associated with stationary and other non-mobile sources and local jurisdictions will more precisely quantify emissions associated with individual projects. Consequently, the analysis presented in **Section 3.8** of this PEIR is a cumulative analysis, and no separate assessment of cumulative effects is needed.

3.21.9 HAZARDS AND HAZARDOUS MATERIALS

Impacts associated with hazards and hazardous materials related to implementation of the proposed Plan are analyzed in **Section 3.9, Hazards and Hazardous Materials**. Hazards and hazardous materials impacts may be related to the transport, use, or disposal of hazardous materials, create a significant hazard through upset or accident conditions involving release of hazardous materials, hazardous materials within one-quarter mile of an existing or proposed school, location on a known hazardous materials site, airport-related hazards, and conflict with an emergency response plan. These effects occur independently of one another, related to site-specific and project-specific characteristics and conditions. However, the analysis in **Section 3.9** concluded there would be significant and unavoidable effects regarding impacts to transport of hazardous materials, release of hazardous materials, hazardous materials within one-quarter mile of a school, location on a known hazardous materials site, and conflict with an emergency response plan. Implementation of **Mitigation Measures SMM HAZ-1 through SMM HAZ-5** as well as **SMM TRA-5** and **PMM HAZ-1 through PMM HAZ-1 through PMM HAZ-5** as well as **PMM TRA-5** would reduce the Plan's impacts, but they would remain significant. These impacts have the potential, due to transportation projects and land use strategies, to have effects beyond SCAG boundaries, particularly to adjacent jurisdictions. Therefore, implementation of the Plan would have significant cumulative impacts.

3.21.10 HYDROLOGY AND WATER QUALITY

As discussed in **Section 3.10, Hydrology and Water Quality**, the Plan would result in significant impacts related to water quality, groundwater recharge, flood hazards and water supply. The land use strategies included in the Plan would result in a more compact development pattern that would be more water efficient. The water providers within the SCAG region that serve the population would need to coordinate water supply with nearby jurisdictions. Given the unreliability of water supply in the region, the increase of approximately 3.2 million people would result in a significant impact to water supply that would add to the impacts of development in surrounding jurisdictions. The Plan could also facilitate access to other areas of the state by increasing infrastructure which could ultimately influence growth (and associated impermeable surfaces) in areas outside SCAG boundaries. **Mitigation Measures SMM HYD-1 through SMM HYD-2 and PMM HYD-1 through PMM HYD-2** would reduce impacts, but they would remain significant. This could result in greater impacts to water quality and could affect water in areas outside the SCAG region. Therefore, the Plan would result in significant cumulative impacts.

3.21.11 LAND USE AND PLANNING

As discussed in **Section 3.11, Land Use and Planning**, implementation of the Connect SoCal Plan has the potential to physically divide an established community and to conflict with existing land use plans. The Plan would result in an increase in density and land use development. Improved accessibility from the Plan could help facilitate urbanization to areas outside the region. Furthermore, changes in land use patterns in the region (i.e. increased urbanization) could affect areas outside the region, resulting in increased urbanization in adjacent jurisdictions. Implementation of **Mitigation Measures SMM LU-1 through SMM LU-4 and PMM LU-1 through PMM LU-2** would reduce impacts, but they would remain significant. Therefore, the Plan would result in significant cumulative land use impacts.

3.21.12 MINERAL RESOURCES

Impacts to mineral resources related to implementation of the Plan are analyzed in **Section 3.12**. The analysis concluded that there would be a significant and unavoidable impact regarding the loss of known mineral resources occurring from transportation projects and land use strategies in the Plan. Aggregate resources used in construction activities throughout the SCAG region would potentially be reduced due to the Plan's transportation projects and anticipated development under the Plan. The Plan could worsen depletion of aggregate supply which would impact surrounding areas and the state. **Mitigation Measures SMM MIN-1 and PMM MIN-1** would reduce impacts, but they would remain significant. Therefore, the Plan would have significant cumulative impact on mineral resources adding to the impact from development of areas outside the SCAG region.

3.21.13 NOISE

As discussed in **Section 3.13, Noise**, the Plan would result in significant impacts related to increases in noise. Changes resulting from the Plan include the extension of transportation and related infrastructure that would result in new noise sources as well as increased noise from some existing sources. Implementation of **Mitigation Measures SMM NOISE-1** and **PMM NOISE-1** would reduce noise and vibration impacts, however they would remain significant. Many of the transportation projects could facilitate access not only within SCAG boundaries but also areas outside the region to adjacent jurisdictions. In addition, Plan projects will connect with projects outside the region, facilitating and potentially inducing construction of transportation infrastructure outside the region. Construction noise and vibration impacts are generally site specific, but to the extent that the Plan might influence growth outside the region, it could result in construction noise outside the region. As population in the region continues to increase, the Plan could also contribute to a cumulatively considerable temporary or permanent increase in noise and vibration outside the region as a result of increased travel. This activity would include railroads, as well as freeway, arterial and transit noise. As a result, there would be a significant cumulative impact.

3.21.14 POPULATION AND HOUSING

As discussed in **Section 3.14, Population and Housing**, implementation of the Connect SoCal Plan could facilitate an increase in population, housing, and employment (although the same increases are anticipated whether or not the Plan is adopted). It is possible that the improved accessibility gained by transportation investments and key land use strategies could result in an increase in population in areas outside the region (as people find it easier to move from outside the region to employment centers within the region). If population increases in areas outside the SCAG region were in excess of forecasts and plans, it could add to cumulative impacts in other jurisdictions. Impacts would be reduced by **Mitigation Measures SMM POP-1** through **SMM POP-4** and **PMM POP-1** would reduce impacts, but they would remain significant. Therefore, the significant impacts of the Plan could contribute to population and displacement impacts of other Plans in neighboring jurisdictions, resulting in a significant cumulative impact.

3.21.15 PUBLIC SERVICES

Fire Protection

As discussed in **Section 3.15.1, Fire Protection**, the Plan would result in significant impacts related to the need for new facilities, the construction of which could cause physical impacts. In general impacts to fire services would be confined to the region and would result from transportation projects and anticipated

growth. It is possible that developments that occur near the region's boundary could result in the need for new or expanded fire protection facilities outside the region. This impact would be cumulatively considerable. In addition, wildfire impacts would be significant. Large fires can extend across regional boundaries requiring firefighters from adjacent regions and beyond to assist on a case-by-case basis. To the extent that the Plan would increase urban uses along the wildland interface and increase fire risk, the chance of a fire requiring multi-regional support also increases. **Mitigation Measures SMM PSF-1** through **SMM PSF-3** and **PMM PSF-1** would reduce impacts but they would remain significant. As a result, the Plan would have a significant cumulative impact.

Police Protection

As discussed in **Section 3.15.2, Police Protection**, the Plan would result in significant impacts related to the need for new facilities. Impacts would be reduced by **Mitigation Measures SMM PSP-1** through **SMM PSP-4** and **PMM PSP-1** would reduce impacts but they would remain significant. In general, impacts as a result of construction of new police facilities would be confined to the immediate area of the construction of each facility. However, as with fire protection, where development and transportation projects are located on the boundary of the region, it is possible that new or expanded facilities would be necessary outside the region. If the construction of such facilities results in a significant impact, the Plan's impact would be cumulatively considerable.

Schools

As discussed in **Section 3.15.3, Schools**, the Plan would result in significant impacts related to the need for new school facilities. **Mitigation Measure SMM PSS-1** would reduce impacts, but they would remain significant. In general, impacts as a result of construction of new schools would be confined to the immediate area of each school. However, if development and transportation projects occur on the boundary of the region, it is possible that new or expanded school facilities would be necessary. If the construction of such facilities results in significant impacts, the Plan's impact would be cumulatively considerable.

Library Services

As discussed in **Section 3.15.4**, the Plan would result in significant impacts related to the need for new facilities. **Mitigation Measure PMM PSL-1** would reduce impacts, but they would remain significant. In general, impacts as a result of construction of new library facilities would be confined to the immediate area of each library. However, if development and transportation projects occur on the boundary of the region, it is possible that new or expanded library facilities would be necessary. If the construction of such facilities results in significant impacts, the Plan's impact would be cumulatively considerable.

3.21.16 PARKS AND RECREATION

To the extent that development may occur on the periphery of the SCAG region, it could increase demand for recreation facilities in surrounding jurisdictions as discussed in **Section 3.16, Parks and Recreation**. Similarly, development on the periphery of these other regions, such as adjacent counties, would result in demand for recreational facilities within the SCAG region. In addition, given the natural resources in the SCAG region, any development in other counties would tend to increase demand for recreation facilities with statewide appeal that are within the SCAG region. Improved transportation infrastructure would facilitate access to these recreational facilities. Impacts would be reduced by **Mitigation Measures SMM REC-1** and **PMM REC-1, PMM AQ-2(b), and PMM NOISE-1(b)** but would remain significant. Therefore, the significant impacts of the Plan on existing facilities of statewide appeal would add to similar impacts anticipated to result from RTPs in other jurisdictions, resulting in a significant cumulative impact.

3.21.17 TRANSPORTATION, TRAFFIC, AND SAFETY

As discussed in **Section 3.17, Transportation, Traffic and Safety**, the Plan would result in increases in total VMT and vehicle hours of delay but reductions in per capita VMT and vehicle hours of delay. Implementation of the Connect SoCal Plan would result in an increase in density and land use development over the life of the Plan. Transportation and traffic related impacts would be reduced by **Mitigation Measures SMM TRA-1** through **SMM TRA-8** and **PMM TRA-1** through **PMM TRA-2** but they would remain significant. Implementation of the Plan, combined with growth outside the region, has the potential to conflict with congestion management programs outside SCAG boundaries. Congestion and delay from RTPs in adjacent counties would add to these significant impacts, which would result in a significant cumulative impact. Further, as discussed in Section 3.17 Transportation, the per capita VMT reductions may not be enough to meet the state goals established by CARB. This, combined with other MPO's not achieving reductions in VMT beyond those identified by CARB, would result in a cumulative statewide impact.

3.21.18 TRIBAL CULTURAL RESOURCES

Plan projects will facilitate access to areas outside the region. In addition, Plan projects will connect with projects outside the region, thereby facilitating and potentially inducing construction of transportation infrastructure outside SCAG boundaries. As discussed in **Section 3.18**, implementation of the Plan would result in significant impacts to tribal cultural resources. **Mitigation Measures SMM TCR-1** and **PMM TCR-1** would reduce impacts but they would remain significant. Therefore, the impacts would contribute

to significant cumulative impacts to tribal cultural resources throughout the state as resources are impacted by new development and land is disturbed.

3.21.19 UTILITIES AND SERVICE SYSTEMS

Solid Waste

The Plan would result in significant impacts related to solid waste generation in the region, as discussed in **Section 3.19.1, Solid Waste**. Implementation of **Mitigation Measures SMM USW-1** through **SMM USW-2** and **PMM USW-1** would reduce impacts but they would remain significant. As population increases across the state, it is expected that additional demands will be placed on landfills with remaining capacity both from inside the SCAG region and from nearby areas such as adjacent counties. The increased demand on landfill capacity could result in the need to truck waste long distances, including to sites outside the region which could result in localized impacts outside the region (noise, air quality, traffic). Further, landfill capacity is finite and by reducing landfill capacity outside the region, there would be less capacity available for areas outside the region. As a result, the Plan would add to impacts on available landfill capacity and result in a cumulatively considerable impact.

Wastewater

The Plan would result in a significant impact related to wastewater capacity and the need for new facilities, as discussed in **Section 3.19.2, Wastewater**. Impacts would be reduced by **Mitigation Measures SMM HYD-1** through **SMM HYD-3** and **PMM UWW-1** but impacts would remain significant. Connect SoCal includes transportation projects and regional land use strategies, targeting growth in urban areas. However, due to planned transportation projects and anticipated development, there would be potential for construction of new stormwater drainage facilities or expansion of existing facilities would be needed. The need for new or expanded facilities for Plan projects in combination with other large projects outside the region, such as wastewater projects in adjacent counties or transportation projects that connect with projects to outside areas could result in significant impacts. As such the Plan would result in a cumulatively considerable impact.

Water Supply

The Plan would result in significant impacts related to water supply, as discussed in **Section 3.19.3, Water Supply**. Impacts would be reduced by **Mitigation Measures SMM USS-2** and **PMM USS-1** but impacts would remain significant. The water providers within the SCAG region that serve the population would need to coordinate water supply with nearby jurisdictions. Given the unreliability of water supply in the region, additional population growth would result in a significant impact to water supply that would add

to the impacts of development in surrounding jurisdictions. Water supply projects that serve the SCAG region include infrastructure that extends beyond the boundaries of the SCAG region. For example, the California Aqueduct conveys water from the Sierra Nevada Mountains and the Colorado River Aqueduct conveys water from the Colorado River to Southern California. Increases in population could require or result in the relocation or construction of new or expanded water facilities outside of the region. As such, the Plan would result in a cumulatively considerable impact.

3.21.20 WILDFIRE

The Plan would result in significant wildfire risk impacts. Impacts associated with wildfire hazards related to implementation of the Plan are analyzed in **Section 3.20**. Impacts would be reduced by **Mitigation Measures SMM WF-1** through **SMM WF-2** and **PMM WF-1** but impacts would remain significant. Wildfire impacts may be related to impairing an emergency response or evacuation plan, exposing occupants to wildfire risks and pollutant concentrations from wildfire, and exposing people or structures to post-fire slope instability. Wildfires pose a significant public health risk due to their air quality impacts. Furthermore, as wildfire-prone areas tend to have fewer vehicular access points than flat, urbanized areas, these roads could face gridlock in the event of a sudden emergency evacuation. Such circumstances could expose vehicle occupants to active flames and potential death. Development of transportation or housing projects in wildfire-prone areas would cause an increase in population exposed to wildfire risk and exacerbate exposure of those populations to pollutant concentrations from wildfires, particularly populations living downwind of the fire. Plan projects, in combination with other projects outside the region, specifically, potential development projects in wildfire areas, could result in additional impacts. Therefore, the project would result in a cumulative considerable impact.

3.21.21 SOURCES

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4.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or substantially lessen significant environmental impacts while attaining most of the project objectives.¹ This chapter sets forth potential alternatives to the Plan and provides a combination of quantitative and qualitative analysis of each alternative and a comparison of each alternative to the Plan. Plan alternatives are evaluated as to how well they achieve the goals, policies, and objectives, the extent of their environmental impacts compared to the Plan, and whether or not they reduce or eliminate significant impacts caused by the Plan.

4.1 RATIONAL FOR ALTERNATIVES SELECTION

Key provisions of the *State CEQA Guidelines* pertaining to the alternatives analysis are summarized below.²

- The discussion of alternatives shall focus on alternatives to the project, including alternative locations that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- The EIR shall include a brief discussion of the rationale for selecting alternatives to be discussed and should identify any alternatives that were considered but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's decision. Among others, the following factors may be used to eliminate alternatives from detailed consideration in an EIR: (1) failure to meet most of the basic project objectives; (2) infeasibility, or (3) inability to avoid significant environmental impacts.
- The No Project Alternative shall be evaluated along with its impacts. The No Project Alternative analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. When the project involves an update to an existing land use or regulatory plan, the "no project" alternative will be a continuation of the existing plan, policy or operation into the future.

¹ *CEQA Guidelines* § 15126.6, 2005

² *CEQA Guidelines* § 15126.6, 2005

The projected impacts of the plan are compared to the impacts from the continuation of the existing plan.

- The range of alternatives required in an EIR is governed by a “rule of reason.” Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.
- The evaluation of alternatives should include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the proposed project.

The range of feasible alternatives is selected and discussed in a manner intended to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in *State CEQA Guidelines* Section 15126.6(f)(1)) are environmental impacts, site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible, and, therefore, merit in-depth consideration.³ Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet project objectives, are infeasible, or do not avoid any significant environmental effects.⁴

Project Objectives

Pursuant to Section 15126.6(a) of the *State CEQA Guidelines*, the PEIR must consider “alternatives ... which would feasibly attain most of the basic objectives of the project but would avoid or substantially

³ CEQA Guidelines §15126.6(f)(3).

⁴ CEQA Guidelines §15126.6(c).

lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” SCAG has established ten goals and seven guiding principles to serve as project objectives:

Connect SoCal Goals:

1. Encourage regional economic prosperity and global competitiveness
2. Improve mobility, accessibility, reliability, and travel safety for people and goods
3. Enhance the preservation, security, and resilience of the regional transportation system
4. Increase person and goods movement and travel choices within the transportation system
5. Reduce greenhouse gas emissions and improve air quality
6. Support healthy and equitable communities
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network
8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel
9. Encourage development of diverse housing types in areas that are supported by multiple transportation options
10. Promote conservation of natural and agricultural lands and restoration of critical habitats

Connect SoCal Guiding Principles:

1. Base transportation investments on adopted regional performance indicators and MAP-21/FAST Act regional targets
2. Place high priority for transportation funding in the region on projects and programs that improve mobility, accessibility, reliability and safety, and that preserve the existing transportation system
3. Assure that land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities

4. Encourage RTP/SCS investments and strategies that collectively result in reduced non-recurrent congestion and demand for single occupancy vehicle use, by leveraging new transportation technologies and expanding travel choices
5. Encourage transportation investments that will result in improved air quality and public health, and reduced greenhouse gas emissions
6. Monitor progress on all aspects of the Plan, including the timely implementation of projects, programs and strategies
7. Regionally, transportation investments should reflect best-known science regarding climate change vulnerability, in order to design for long term resilience.

Limits of SCAG Authority

While SCAG is required to prepare an SCS as part of the RTP, SCAG lacks the legal authority to require the decision makers of cities and counties to adopt or amend their respective land use policies, such as general plan and zoning code amendments that would implement the land use patterns included in the SCS component of the Plan. Furthermore, SCAG lacks the legal authority to implement land use designations in the SCS component of the Plan or the alternatives. While this PEIR analyses one land use scenario for the proposed Plan and other scenarios in the alternatives analyses below, there are nearly an infinite variety of specific land use scenarios at the local level that could achieve Plan objectives to a similar extent. Pursuant to CEQA, the range of alternatives considered in this PEIR illustrates the different environmental consequences of potential distinct regional-level alternatives to the Plan.

SCAG also does not have any ability or authority to control population and employment levels in the region. The accuracy of growth projections at the regional scale, over both the short and long term, are inherently estimates that are subject to a wide variety of factors outside of the control of SCAG or any of its member counties and cities. Accordingly, all alternatives assume the same forecasted regional growth in population and employment. Estimating the environmental consequences of regional growth within the SCAG region is also subject to a wide variety of uncertainties that are outside of the control of SCAG, and for many topical areas are outside the control of SCAG's member counties and cities.

4.2 ALTERNATIVES TO THE PROPOSED PROJECT

SCAG developed three alternatives for analysis in the PEIR. Each alternative consists of a transportation network element and a land use pattern element and is aligned in part with the scenarios for developing

the Plan (See **Chapter 2.0, Project Description** for further details). The following alternatives are evaluated:

1. No Project Alternative
2. Existing Plans-Local Input Alternative
3. Intensified Land Use Alternative

SCAG did not identify additional alternatives that were rejected. As such, three alternatives were identified for comparative analysis: The No Project Alternative and two other potentially feasible RTP/SCS alternatives, one that increases greenfield development (Existing Plans-Local Input Alternative) and one that places additional emphasis on infill development and transit (Intensified Land Use Alternative).

The No Project alternative, required to be analyzed under CEQA, assumes the projected land use pattern and planned transportation improvements would be consistent with those set forth in the 2016 RTP/SCS and that investments would cease beyond what is currently programmed. The two other alternatives allow for analysis variation in projected land use pattern and planned transportation improvements that could realistically be expected to occur over the Plan horizon. The alternatives reflect different growth patterns and different investment decisions for the transportation system. All three alternatives assume the same regional employment, population, and housing growth projections and roughly the same overall transportation budget. Land use and transportation assumptions vary in the following ways:

Land Use Variables:

- The amount of compact or infill development, which is measured in terms of housing product mix (the mix of high- and low-density housing units) and amount of development occurring in existing developed versus undeveloped areas. Compact development has been shown to be more effectively served by transit, to support potentially higher rates of walking and biking, and to generate less vehicle travel.
- The amount of development in high-quality transit areas, where residents are more likely to use available transit.
- The amount of mixed-use development, which supports shorter vehicle trips and higher rates of non-motorized travel.

Transportation Variables:

- The location, intensity, and type of transit service, based on the extent of transit-supportive land uses in corridors. Higher density, mixed-use corridors provide greater opportunities for higher capacity transit, such as light rail.
- The level of investment in transportation systems management (TSM) strategies, including technology and travel demand management (TDM) programs that allow for greater optimization of existing transportation infrastructure. More compact and mixed-use development patterns can allow some shifts in investment priorities away from road extensions and expansions to improving the function of existing roads for multi-modal travel.
- System pricing strategies, such as cordon pricing as a tool for managing congestion.

Generally, the alternatives represent a progression of land use and transportation investments, such that Existing-Plans Alternative includes the most dispersed land use and fewest transportation investments and Intensified Land Use Alternative represents the most compact land use pattern but maintains the same transportation investments as the Plan. Connect SoCal falls in between the two alternatives. As stated above, all alternatives analyzed accommodate the same amount of regional growth: 3,167,500 new people, 1,391,700 new jobs, and 1,426,700 new housing units.

A more detailed description of each of these alternatives is provided below, followed by a comparative analysis of how well the alternative would achieve the project objectives and the relative level of environmental impact associated with each alternative as compared to implementation of Connect SoCal. For each resource area evaluated in this PEIR the text summarizes whether the impacts of the alternative would generally result in greater or lesser impacts than those Connect SoCal. **Table 4.0-1, Comparison of Connect SoCal and Alternatives**, provides an “at a glance” comparison of the three alternatives and Connect SoCal.

**Table 4.0-1
Comparison of Connect SoCal and Alternatives**

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Greenfield Land Consumption	41,546 acres	64,608 acres	54,679 acres	32,247 acres
Natural Land	21,561,361 acres	21,559,568 acres	21,553,029 acres	21,563,157 acres
Agricultural Land (total)	892,477 acres	887,706 acres	882,069 acres	890,603 acres
Total Area Converted from Agriculture to Urban from the existing	6,732 acres	10,101 acres	14,861 acres	8,563 acres
Agriculture Production Value	\$3,561,365,881	\$3,543,507,241	\$3,522,366,445	\$3,556,648,245
Acres of Habitat Improved from the existing (Threatened and Endangered Species)	311 acres	29 acres	481 acres	126 acres
Acres of Habitat Improved from the existing (Species Vulnerable to Climate Change – Except Birds)	354 acres	44 acres	735 acres	220 acres
Acres of Habitat Improved from the existing (Species Vulnerable to Climate Change - Birds)	1,525 acres	1,265 acres	3,125 acres	1,216 acres
Acres of Habitat Degraded from the existing (Threatened and Endangered Species)	7,899 acres	8,365 acres	12,274 acres	7,115 acres
Acres of Habitat Degraded from the existing (Species Vulnerable to Climate Change – Except Birds)	9,621 acres	10,456 acres	14,967 acres	8,728 acres
Acres of Habitat Degraded from the existing (Species Vulnerable to Climate Change - Birds)	12,778 acres	15,231 acres	19,862 acres	11,666 acres
High Species Movement Potential	22,210,114 acres	22,211,576 acres	22,191,944 acres	22,211,104 acres
Total Carbon Stock	73,707,960 metric tons	73,726,660 metric tons	73,571,245 metric tons	73,809,796 metric tons

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Total non-Transportation GHG Emissions (MMT), annual	34.2 MMT	35.0 MMT	34.7 MMT	34.2 MMT
Housing Mix	42% Multifamily 8% Townhome 23% Single Family small lot 27% Single Family large lot	37% Multifamily 7% Townhome 27% Single Family small lot 29% Single Family large lot	40% Multifamily 7% Townhome 25% Single Family small lot 28% Single Family large lot	44% Multifamily 8% Townhome 22% Single Family small lot 26% Single Family large lot
Development Location (Growth Priority Areas)	60% Homes 73% Jobs	58% Homes 70% Jobs	57% Homes 70% Jobs	60% Homes 73% Jobs
Land Pattern Focus (New Housing)	21% Urban (infill) 63% Compact (walkable) 16% Standard (suburban)	9% Urban (infill) 18% Compact (walkable) 73% Standard (suburban)	4% Urban (infill) 69% Compact (walkable) 27% Standard (suburban)	16% Urban (infill) 57% Compact (walkable) 27% Standard (suburban)
Land Pattern Focus (New Jobs)	23% Urban (infill) 62% Compact (walkable) 15% Standard (suburban)	8% Urban (infill) 9% Compact (walkable) 84% Standard (suburban)	4% Urban (infill) 61% Compact (walkable) 36% Standard (suburban)	20% Urban (infill) 52% Compact (walkable) 27% Standard (suburban)
Cumulative Residential and Commercial Building Energy Consumed and Energy Costs	15,464 trillion Btu \$670 billion	15,670 trillion Btu \$678 billion	15,592 trillion Btu \$675 billion	15,381 trillion Btu \$666 billion
Cumulative Residential and Commercial Building Water Use and Water Costs	84,676,019 acre-feet \$116 billion	85,689,515 acre-feet \$117 billion	85,215,252 acre-feet \$116 billion	85,038,413 acre-feet \$116 billion
Per Household Total Cost (driving + utilities)	\$13,225	\$13,758	\$13,523	\$13,172
Infrastructure Capital	\$25.9 billion	\$28.6 billion	\$27.5 billion	\$26 billion
Operations and Maintenance	\$10.1 billion	\$ 11.3 billion	\$ 10.6 billion	\$ 10.0 billion
Highway Network	80,170 lane mile	74,862 lane mile	80,170 lane mile	80,170 lane mile
Transit Network (route mile)	14,906	14,485	14,824	14,906
Transit Boarding (daily)	5.1 million	3.1 million	4.7 million	5.1 million
Vehicle Miles Traveled (VMT) ¹	517,631,374 (total) 22.89 (VMT per capita)	538,091,045 (total) 23.80 (VMT per capita)	529,269,153 (total) 23.41 (VMT per capita)	516,259,271 (total) 22.83 (VMT per capita)
Vehicle Hours Traveled (VHT) ¹	14,130,874	15,424,699	14,539,787	14,074,675

Elements	Proposed Project: Connect SoCal	Alternative 1: No Project Alternative	Alternative 2: Existing Plans- Local Input Alternative	Alternative 3: Intensified Land Use Alternative
Vehicle Hours Delay ¹	2,668,229 (total) 0.12 (Delay per capita)	3,470,645 (total) 0.15 (Delay per capita)	2,823,797 (total) 0.12 (Delay per capita)	2,619,980 (total) 0.12 (Delay per capita)

Note:

¹ This includes light and medium-duty vehicles, and heavy-duty trucks.

Source:

SCAG Modeling and SPM data, 2019.

A summary comparison of major impact categories of the Plan and alternatives is included in **Table 4.0-2, Comparison of Alternatives to Connect SoCal.**

**Table 4.0-2
Comparison of Alternatives to Connect SoCal**

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Aesthetics				
Scenic Vistas	Significant	Less (significant)	Greater (significant)	Greater (significant)
Scenic Resources	Significant	Less (significant)	Greater (significant)	Greater (significant)
Visual Character	Significant	Greater (significant)	Greater (significant)	Less (significant)
Light and Glare	Significant	Greater (significant)	Greater (Significant)	Less (significant)
Agricultural Resources				
Convert Prime Farmland	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Conflict with Williamson Act	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Conflict with forest land zoning	Significant	Less (Less than significant)	Similar (Significant)	Similar (Significant)
Loss of forest land	Significant	Less (less than significant)	Similar (Significant)	Similar (Significant)
Other changes that result in loss of farmland or forest land	Significant	Greater (significant)	Greater (significant)	Similar (significant)
Air Quality				
Conflict with Air Quality Plans	Less than significant	Similar (less than significant)	Similar (less than significant)	Less (Less than significant)
Violate an air quality standard	Significant	Similar (significant)	Greater (significant)	Similar (significant)
Cumulatively considerable net increase in criteria pollutants	Significant	Greater (significant)	Greater (significant)	Less (significant)
Expose sensitive receptors	Significant	Similar (significant)	Similar (significant)	Similar (significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Odor	Less than significant	Greater (less than significant)	Similar (less than significant)	Similar (less than significant)
Biological Resources				
Sensitive Species	Significant	Greater (significant)	Greater (significant)	Less (significant)
Riparian Habitat	Significant	Greater (significant)	Greater (significant)	Less (significant)
Wetlands	Significant	Greater (significant)	Greater (significant)	Less (significant)
Migratory Fish/Birds	Significant	Greater (significant)	Greater (significant)	Less (significant)
Tree Preservation	Significant	Greater (significant)	Greater (significant)	Less (significant)
Local Plans/HCPs	Significant	Greater (significant)	Greater (significant)	Less (significant)
Cultural Resources				
Historical Resources	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Archeological Resources	Significant	Greater (significant)	Greater (significant)	Less (significant)
Disturb Human Remains	Significant	Similar (significant)	Greater (significant)	Less (significant)
Energy				
Wasteful and inefficient use of energy	Less than significant	Greater (less than significant)	Greater (less than significant)	Less (less than significant)
Conflict with or obstruct renewable energy plans	Less than significant	Similar (less than significant)	Similar (less than significant)	Less (less than significant)
Geology and Soils				
Fault rupture, ground shaking, ground failure/liquefaction, landslides	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Soil Erosion	Significant	Greater (significant)	Greater (significant)	Less (significant)
Unstable Soil	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Expansive Soil	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Septic Systems	Less than Significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Paleontological Resources	Significant	Greater (significant)	Greater (significant)	Less (significant)
Greenhouse Gas Emissions				
Generate greenhouse gas emission	Significant	Greater (significant)	Greater (significant)	Less (significant)
Conflict with Plans	Significant	Greater (significant)	Greater (significant)	Similar (significant)
Hazards and Hazardous Materials				
Routine Transport	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Upset conditions	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Emissions within 0.25 mile of school	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Hazardous materials site	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Airport hazards	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Emergency response plan	Significant	Greater (significant)	Greater (significant)	Less (significant)
Hydrology and Water Quality				
Violate water quality standard	Significant	Greater (significant)	Greater (significant)	Less (significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Decrease groundwater	Significant	Greater (significant)	Greater (significant)	Less (significant)
Erosion or siltation	Significant	Greater (significant)	Greater (significant)	Less (significant)
Flooding	Significant	Greater (significant)	Greater (significant)	Less (significant)
Stormwater runoff	Significant	Greater (significant)	Greater (significant)	Less (significant)
Flood, seiche, tsunami	Significant	Greater (significant)	Greater (significant)	Less (significant)
Conflict with water quality control plan	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Land Use				
Physically divide a community	Significant	Less (significant)	Similar (significant)	Similar (significant)
Conflict with land use plans	Significant	Less (significant)	Similar (significant)	Greater (significant)
Mineral Resources				
Loss in availability of mineral resources	Significant	Less (significant)	Greater (significant)	Less (significant)
Loss of locally important mineral resources	Significant	Less (significant)	Greater (significant)	Less (significant)
Noise				
Temporary or permanent increase in noise levels in excess of established standards	Significant	Similar (significant)	Similar (significant)	Less (significant)
Groundborne vibration or noise	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Airport noise	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Population and Housing				
Induce unplanned population growth	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Displace people or housing	Significant	Similar (significant)	Similar (significant)	Similar (significant)
Public Services				
Fire	Significant	Greater (significant)	Greater (significant)	Less (significant)
Police	Significant	Greater (significant)	Greater (significant)	Less (significant)
Schools	Significant	Similar (significant)	Similar (significant)	Less (significant)
Library	Significant	Similar (significant)	Similar (significant)	Less (significant)
Recreation				
Increase park use	Significant	Less (significant)	Less (significant)	Greater (significant)
Construction of new parks	Significant	Similar (significant)	Similar (significant)	Greater (significant)
Transportation and Traffic				
Conflict with program, plan, ordinance or policy addressing circulation system	Less than significant	Similar (less than significant)	Similar (less than significant)	Similar (less than significant)
Conflict with <i>CEQA Guidelines</i> 15064.3(b)	Significant	Greater (significant)	Greater (significant)	Less (significant)
Increase hazards	Less than significant	Greater (less than significant)	Greater (less than significant)	Greater (less than significant)

Environmental Issue	Connect SoCal Impact	Alternative 1 – No Project	Alternative 2 – Existing Plans - Local Input	Alternative 3- Intensified Land Use
Inadequate emergency access	Significant	Greater (significant)	Greater (significant)	Less (significant)
Tribal Cultural Resources				
Adverse change in a TCR	Significant	Greater (significant)	Greater (significant)	Less (significant)
Utilities – Solid Waste				
Generate excess solid waste or conflict with statutes	Significant	Greater (significant)	Similar (significant)	Similar (significant)
Utilities – Wastewater				
New or expanded wastewater treatment	Significant	Greater (significant)	Greater (significant)	Less (significant)
Exceed capacity	Significant	Greater (significant)	Greater (significant)	Greater (significant)
Utilities – Water Supply				
New or expanded water facilities	Significant	Greater (significant)	Greater (significant)	Less (significant)
Sufficient water supply	Significant	Greater (significant)	Greater (significant)	Less (significant)
Wildfire				
Impair adopted response plan	Significant	Greater (significant)	Greater (significant)	Less (significant)
Slope, prevailing winds may exacerbate wildfire risk	Significant	Greater (significant)	Greater (significant)	Less (significant)
Installation or maintenance of infrastructure that may exacerbate fire risk	Significant	Greater (significant)	Greater (significant)	Less (significant)

Source: Impact Sciences 2019

Alternative 1: No Project Alternative

The No Project Alternative is required by Section 15126.6I(2) of the *CEQA Guidelines* and assumes that the Plan would not be implemented. The No Project Alternative allows decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative evaluates “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (*CEQA Guidelines* Section 15126.6E(2)). The No Project Alternative is aligned with the Trend/Baseline Scenario⁵ and includes transportation projects that are in place at the time of

⁵ Connect SoCal – Sustainable Communities Strategy Technical Report.

preparation of the Connect SoCal Plan and that are included in the first two years of the previously conforming transportation plan and/or federal transportation improvement program (FTIP). “Exempt projects” include safety projects and certain mass transit projects, transportation control measures (“TCMs”) that are approved by the State Implementation Plan, and project phases that were authorized by the FHWA/FTA prior to expiration of SCAG’s conformity finding for the adopted 2016 RTP/SCS. These exempt projects would also be included in the No Project Alternative since they could move forward in the absence of an adopted Connect SoCal Plan.⁶

The land use strategies included in the No Project Alternative are based on the trending socioeconomic growth projection to the future (2045) updated with the same jurisdictional local input population, household and employment data as those in the Connect SoCal Plan to reflect the most recent local input growth estimates in the region.

Alternative 2: Existing Plan-s - Local Input Alternative

The Existing Plans - Local Input Alternative is aligned with the Existing Plans – Local Input Scenario in the Plan.⁷ This alternative incorporates local general plans and land use information to reflect the Plan’s population, household and employment growth estimates in the region. The Plan’s transportation and land use strategies are not included in this alternative. The transportation network analyzed under this alternative are the transportation projects planned by each County Transportation Commission (CTC) in the region. In general, this alternative represents a more dispersed land use pattern as compared to Connect SoCal.

Alternative 3: Intensified Land Use Alternative

This Intensified Land Use Alternative is based off the Plan’s transportation network and strategies. This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario.⁸ The land use pattern builds on the land use strategies as described in the Connect SoCal Plan and beyond. Specifically, it increases densities and intensifies land use patterns of the Plan, especially around HQTAs in an effort to maximize transit opportunities. The growth pattern associated with this alternative optimizes urban areas and suburban town centers, transit-oriented developments (TODs), HQTAs, livable corridors, and neighborhood mobility areas. It also includes a greater

⁶ Federal Highway Administration. *Transportation Conformity: A Basic Guide for State and Local Officials (Revised 2010)*, FHWA-HEP-11-001. Available at: http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide10.cfm

⁷ Connect SoCal – Sustainable Communities Strategy Technical Report.

⁸ Connect SoCal – Sustainable Communities Strategy Technical Report.

progressive job-housing distribution optimized for TODs and infill in HQTAs. It includes the same transportation investments as the Plan. This alternative considers the basis of the Plan with enhancements to accelerate the SB 375 GHG emissions reduction trend into 2045 and beyond, and includes related improvements for air quality, livability, public health, active transportation opportunities, and affordability.

4.3 COMPARATIVE ANALYSIS OF IMPACTS

Consistent with the requirements of Section 15126.6(d) of the *State CEQA Guidelines*, this section of the analysis provides information for the alternatives, including the No Project Alternative, to allow meaningful evaluation, analysis, and comparison with the Project, inclusive of direct, indirect, and cumulative impacts (**Table 4.0-2, Comparison of Alternatives to Connect SoCal**). The evaluation demonstrates if the alternative can avoid or reduce the significant and unavoidable effects of the Project.

Alternative 1: No Project Alternative

Aesthetics

Impacts to scenic vistas from transportation projects in the No Project would be less than Connect SoCal because the No Project Alternative would result in fewer transportation projects overall and therefore fewer opportunities to obstruct a scenic vista. Impacts from the land use pattern could be greater than Connect SoCal as the overall land use pattern would be more dispersed resulting in more opportunities to obstruct a scenic vista, however, projects would also generally be of a lower scale than with Connect SoCal. However, with fewer projects, impacts would likely be less than the Plan but still significant.

The No Project Alternative would also result in fewer opportunities to create visually contrasting elements due to the reduced number of transportation and land use projects as well as the lower scale of projects overall. The No Project Alternative would not include any transportation projects that could affect any State Scenic Highways or vista points. However, views of green space from these areas could be impacted by land use development. Impacts would still be significant but less than the Plan.

Connect SoCal includes strategies to focus growth in HQTAs, which would help reduce the consumption and disturbance of natural lands and reduce resultant impacts on aesthetics and views. Under the No Project Alternative, these land use patterns may not occur and therefore greater areas of greenfield would be impacted resulting in greater impacts to visual character (although individual jurisdictions may still seek to reduce the urban footprint through their general plans). The No Project Alternative's impacts would result in the consumption of more greenfield land (91 square miles, as opposed to 51 square miles under the Plan) potentially resulting in loss of scenic resources and changes in visual character. Impacts

to visual character in urbanized areas would be similar to Connect SoCal because existing zoning and other regulations governing visual quality are mandatory and would be equally enforced under this alternative. Regarding light and glare, the greater amount of land consumed under this alternative, could introduce more lighting into undeveloped areas resulting in potential impacts greater than the Plan.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under Connect SoCal because the projected land use pattern of the No Project Alternative would be less compact and would convert 3,369 more acres of agricultural land to urban use. However, the planned transportation improvements of this alternative would include 5,308 fewer lane miles of new or expanded roadway and highways relative to Connect SoCal. The additional land disturbance associated with the less compact land use pattern would occur in areas with agricultural land.

Because the No Project Alternative would not include projects with the potential to impact forest lands, impacts under this alternative would be reduced compared to the Plan. Impacts related to forest land under the No Project would be less than significant.

The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural and forestry resources and timberlands would also be greater because additional agricultural lands would be converted to non agricultural uses. Similarly, the potential for other changes that could result in the conversion of agricultural land to developed land uses would be greater due to increases in urbanization in rural areas under this alternative as compared to Connect SoCal.

Air Quality

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan resulting in less construction emissions compared to the Plan. However, construction emissions in the region as a whole would still exceed the significance thresholds established in the *CEQA Guidelines* (these thresholds were developed for use in analyzing individual development projects) and applied by the local air districts (SCAQMD, VCAPCD, MDAQMD, and AVPCD). Similar to the Plan, the cumulative construction emissions in the region would result in a significant impact, which would be short-term for each individual project but overall the region would experience on-going air quality impacts.

Projected long-term emissions are cumulatively significant if they are not consistent with the local air quality management plans and state implementation plans. Unlike the Plan, the No Project Alternative may not conform to the local air quality management plans. The No Project Alternative is anticipated to have higher levels of VMT than the Plan (**Table 4.0-3, Plan Compared to Alternative 1: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**) resulting in a higher level of particulate matter and ozone precursors, pollutants for which the area is designated as non-attainment. As a result, the No Project Alternative could have a significant cumulative impact.

With respect to cancer risk and impact to public health, the No Project Alternative would result in more emissions as compared to the Plan due to the increase in VMT (**Table 4.0-3**). Due to differences in VMT (light and medium duty vehicles and heavy-duty truck traffic) in some cases, for some segments the No Project Alternative would have slightly less risk than under the Plan. As for the Plan, future emissions would be substantially less than existing conditions.

**Table 4.0-3
Plan Compared to No Project Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**

Segment No.	Transportation Segment	County/Region	No Project Alternative (risk in a million)	Connect SoCal Plan (risk in a million)
1	IMP I-8	Imperial/El Centro	14.2	14.5
2	IMP SR-78	Imperial/Westmoreland	37.1	18.9
3	LA I-110	Los Angeles/Carson	24.8	23.5
4	LA I-710	Los Angeles/Compton	29.9	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	31.1	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	18.4	16.3
7	ORA I-5	Orange/ Orange	5.36	5.49
8	ORA I-405	Orange/ Seal Beach	12.2	11.8
9	RIV I-10	Riverside/ Banning	4.97	4.83
10	RIV SR-15	Riverside/ Temecula	9.65	9.52
11	RIV SR-91	Riverside/ Corona	8.4	8.41
12	SB I-15 ONT	San Bernardino/Ontario	10.4	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	40.6	41.3
14	SB SR-60	San Bernardino/ Ontario	19.1	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.93	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	19.6	21.9

Source: Impact Sciences, 2019.

Note: Segments 7, 11, 12, 13, and 16 under No Project Alternative will have a higher health risk than under the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar to the Plan, there would be fewer construction projects causing these odors but also higher VMT, causing more diesel emission odors.

Overall impacts to air quality would be greater when compared to Connect SoCal due to the more dispersed growth pattern and greater VMT.

Biological Resources

The No Project Alternative would result in greater impacts to biological resources when compared with the implementation of the Plan. Under this alternative there would be 57 percent more standard (single family) suburban residential development and an additional 1,793 acres of natural lands developed. As such, more sensitive biological resources would be expected to be affected under the No Project Alternative. The No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, nor would it encourage additional greenways. As a result, development would be more scattered through the region when compared to the Plan, and native habitat conversion and fragmentation would increase.

The Plan includes transportation and land use strategies that focus growth along existing corridors and in urbanized areas, rather than allowing development of vacant, open space/recreation, and agricultural lands. This compact development pattern would focus population in urban areas. Without the Plan land use strategies, impacts to biological resources would be more widespread throughout the region. Additionally, habitat degradation would be higher under the No Project Alternative (8,365 acres) than under the Plan (7,899 acres). Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas. As such, impacts would be greater under the No Project Alternative.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological, and human remains, and important examples of major periods of California history or prehistory) under this alternative would be greater than under Connect SoCal because this alternative's projected land use pattern would be less compact and include an additional 23,062 of greenfield development. The additional land disturbance, such as grading and excavation, resulting from the projected land use pattern of this alternative would result in greater likelihood of encountering unknown surface or subsurface archaeological resources, or human remains; it would also result in greater impacts to the character of settings that contribute to the

significance of historic built environments. However, this alternative would result in fewer lane miles constructed which would reduce transportation related impacts compared to Connect SoCal (as discussed below). Overall, impacts to cultural resources would be greater when compared to Connect SoCal.

Energy

The No Project Alternative would likely result in increased use of energy because the No Project Alternative assumes more large lot development, resulting in a larger share of individual detached structures. These individual structures require more energy for materials, more materials overall, and more fuel to build (e.g., additional equipment and vehicle use for site development, grading, and excavation) than would be needed for attached structures.

Per-capita energy consumption under this alternative would be greater than under Connect SoCal due to the less compact land use pattern. The No Project Alternative also includes a housing mix with a greater proportion of large-lot single-family homes (73 percent standard suburban) as compared to the Plan (16 percent standard suburban). Because the No Project Alternative would include more large-lot single-family homes, which require more energy use per capita as compared to attached and multi-family homes, this alternative would result in more energy use per capita as compared to the Plan. The less compact land use pattern also leads to higher VMT, and more inefficient consumption of transportation energy than under the Plan. While it would be likely that, compared to baseline conditions (2019), per capita energy consumption would go down under this alternative (as the trajectory of per capita energy is on a downward trend overall), per capita energy consumption would be higher than under the Plan. Therefore, although impacts would be less than significant, the No Project Alternative would result in greater impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations.

This alternative is likely to have similar impacts on state and local plans for renewable energy or energy efficiency as compared to the Plan. Use of some renewable energy sources could be facilitated, while the use of other renewable energy sources could be hindered by this alternative. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

While implementation of the Connect SoCal Plan would result in a greater number of transportation projects than the No Project Alternative, the No Project Alternative would result in similar impacts associated with risk as a result of surface fault rupture, ground-shaking liquefaction, landslides, and

other risks associated with seismic events. The anticipated population growth would remain constant over all alternatives and the Project, and the entire region is subject to the same seismic risk. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the projected land use pattern and planned transportation improvements of the Plan.

Impacts related to soil erosion would be significant and would be greater under this alternative as there would be an increase in land consumed which could result in more soils exposed. Impacts related to unstable soil, expansive soil, and septic systems would also be less than significant and similar to the Plan as projects would continue to comply with existing regulations.

Impacts to unique geologic features would be greater under this alternative than under the Plan because the projected land use pattern of this alternative is less compact. The additional land disturbance resulting from the projected land use pattern under this alternative would result in greater impacts to unique geologic features.

Greenhouse Gas Emissions

The greenhouse gas (GHG) emissions for building energy would be higher under the No Project Alternative (32.4 MMTCO₂e/year) than under the Plan (31.3 MMTCO₂e/year), a difference of 3 percent (**Table 3.8-9, Greenhouse Gas Emissions for the SCAG Region from Three Primary Sources [CO₂e]**). The water-energy GHG emissions under the No Project Alternative (2.6 MMTCO₂e/year) would be higher than under the Plan (2.5 MMT CO₂e/year) (see **Table 3.8-9**). For transportation, the GHG emissions with the No Project Alternative (74.6 MMT CO₂e/year) would also be greater compared to the Plan (64 MMT CO₂e/year) (see **Table 3.8-9**). The more dispersed development pattern of the No Project Alternative would result in increased building energy use (as multi-family buildings are more efficient than single-family homes) and more VMT. The Plan would improve regional GHG emissions compared to the No Project Alternative.

Senate Bill (SB) 375 requires CARB to develop regional CO₂ emission reduction targets, compared to 2005 emissions, for cars and light trucks only for 2020 and 2035 for each of the state's MPOs. Unlike the Plan, the No Project Alternative would not achieve SB 375 targets due to the inability to complete the transportation investments and increase density of development in HQTAs that are required to achieve the GHG emission reductions made possible by the Plan. Since the GHG emissions from transportation sources would be higher with the No Project Alternative than under the Plan, this alternative would not meet the regional GHG reduction targets for cars and light-duty trucks, would not be sufficient to meet

the state's overall GHG reduction goals, and would conflict with AB 32 and SB 32 even more than the Plan. As such, the No Project Alternative would have a greater impact on GHG emissions than the Plan.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operation under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network improvements of this alternative and the proposed Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more dispersed land use pattern under this alternative would be more automobile-oriented than the Plan and could complicate emergency evacuation plans that rely in part on public transit. Therefore, the less compact land use pattern of this alternative would result in greater impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Under the No Project Alternative, fewer areas would be impacted by excavation and construction activities related to transportation projects as compared to the Plan. While the No Project Alternative would reduce the number of transportation projects built in the SCAG region, it would result in greater vacant land consumption that would, in turn, increase impervious surface. The additional land area permanently converted to impervious surfaces would increase the potential volume and decrease the water quality of stormwater flows. Additional impervious surface also would interfere with groundwater recharge and alter drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding relative to the Plan. This alternative would require greater storm drainage system capacity than the Plan because of its conversion of additional land area to impervious surface area. In addition, the housing mix of this alternative would include a larger share of large-lot single-family homes, which would result in more managed landscaping areas and associated pollutants such as

nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality.

With fewer transportation projects than the Plan, impacts of the No Project Alternative would be reduced when compared with the Plan. As the currently planned projects included in the No Project alternative are built, the impacts resulting from increased roadway runoff and drainage patterns would remain significant. Likewise, the impacts to groundwater infiltration caused by the increased impervious surfaces of roadway projects, and to increased flooding hazards, would remain significant.

Similar to the Plan, this alternative could conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan, impacts would be similar to the Plan.

Land Use Planning

Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed. As a result, fewer transportation projects would be built than under the Plan and new growth would occur consistent with local general plans, although it would be more dispersed than contemplated under the Plan. The less compact land use pattern of this alternative provides less connectivity within existing communities because of its more dispersed allocation of future growth, but it would not physically divide any existing communities. This impact would be the same as under the Plan. The transportation projects in this alternative would add 5,308 fewer lane miles compared to the Plan. With fewer lane miles, the planned transportation improvements of this alternative would result in less impact from physically dividing existing communities. Impacts would be less than the Plan, however would remain significant.

The No Project Alternative would result in fewer impacts with regard to conflicts with any applicable land use plan, policy, or regulation for the purpose of avoiding or mitigating an environmental effect due to there being fewer transportation projects. The Plan's land use strategies would be implemented to the extent they have already been built into existing local jurisdiction's plans and therefore there would be less opportunity for land use policy conflicts as compared to the Plan.

Mineral Resources

The No Project Alternative would result in fewer lane miles compared to the Plan which would require less aggregate. Further, the No Project Alternative could result in greater loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the greater amount of land that would be converted to urban land

potentially covering more mineral resource extraction opportunities. However, overall impacts would be less than the Plan but still significant.

Noise

The No Project Alternative would result in reduced impacts from noise when compared with Connect SoCal. Under the No Project Alternative, no new transportation investments would be made, beyond those that are currently programmed; and land use development would be more distributed than under the Plan. Therefore, the No Project Alternative would not include transportation and land use strategies that focus growth along existing corridors and in urbanized areas, would not result in construction or operation of new transportation infrastructure, and would not develop new HQTAs. As a result, fewer transportation projects would be built than under the Plan, however a greater area would be affected by construction noise associated with land use development.

Construction noise in urban areas is generally expected and considered less than significant. Construction noise on individual sites could still exceed significance thresholds in some jurisdictions. Construction-related noise impacts would be similar, although possibly fewer sensitive receptors would be impacted under this alternative due less urban locations that would be subject to disturbance during construction activities. This would increase the number of separate construction sites, which would increase overall noise levels associated with construction activities. However, impacts overall would be similar as the Plan and still significant.

The projected land use pattern of this alternative, while less compact than the Plan, would not result in land use types that would result in meaningfully different levels of vibration or groundborne noise. The planned transportation improvements of this alternative would include limited roadway and highway improvements which also would not result in meaningfully different levels of vibration or groundborne noise relative to the planned transportation improvements identified in the Plan. This impact is the same under this alternative.

Regarding aviation noise, the No Project Alternative would result in similar impacts to the Plan, as there would be no change in air traffic patterns or airport operations under this alternative.

Population and Housing

Impacts related to population and housing should be similar under all alternatives, because the same number of people, housing units and jobs are assumed. The less compact land use pattern of this alternative could still result in displacement of substantial numbers of people or existing housing that

necessitates the construction of replacement housing elsewhere. This impact is the same as the Plan and would remain significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed, and public service impacts are generally population driven. However, this alternative could worsen the ability to achieve local levels of service due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan, although congestion (VHD) would increase compared to the Plan which could affect police and fire services in some areas.

Regarding schools and libraries, the population would be the same under each of the alternatives. While there could be less demand in urban areas (due to the more dispersed land use pattern) there could be greater impacts in less developed areas. Given the increased growth in suburban areas, this alternative could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school and library facilities in order to maintain acceptable service ratios. Impacts would be significant and similar to the Plan.

Parks and Recreation

This alternative could worsen the ability to achieve local levels of service due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. Although there would be less demand on urban parks (which are often overburdened) there could be more demand on large regional parks due to a more dispersed land use pattern and the need to travel to parks. As the regional is well-served with regional parks, this impact would be less than the Plan but still significant.

Transportation, Traffic, and Safety

The No Project Alternative would result in greater VMT per capita (23.80 VMT/per capita) than under the Plan (22.89 VMT/per capita), in part because of the less compact land use pattern. This alternative would also locate fewer homes and jobs near HQTAs. According to CARB much greater VMT reductions (beyond those achieved by the Plan) will be required to meet the state's long-term climate goals. Therefore, the VMT impact of this alternative is greater than under the Plan. For the reasons provided above, this alternative would also result in lower levels of transit ridership (by two million boardings) as

well as walking, and biking for commute trips and all trips and it would be less complementary to existing and planned bicycle and pedestrian facilities.

The No Project Alternative would also result in higher VHD by 802,416 (total). The compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. Without the Plan development patterns, vehicle miles traveled, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan resulting in greater impacts.

Under the No Project Alternative, impacts related to design hazards would also be greater (although still less than significant) as fewer transportation improvements would be constructed and the Plan's focus on safety would not be implemented. Emergency access would be greater because the land use pattern of large lot homes would be less efficient and there would be fewer transportation improvements constructed.

Tribal Cultural Resources

The No Project Alternative would result in greater impacts to tribal cultural resources when compared with the Plan. Under the No Project Alternative, there would be an additional 23,062 acres of greenfield land consumed, which would have the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. However, the transportation network in this alternative would include fewer lane miles and could reduce the potential to impact previously undiscovered tribal cultural resources as compared to the Plan. Due to the less compact land use pattern and the increase in greenfield consumed, impacts would be greater under the No Project Alternative and would be significant.

Utilities and Service Systems

This alternative is anticipated to result in impacts to utilities and service systems similar to those that would be generated under the proposed Plan and would be significant because the same total population, housing, and employment numbers are assumed, and utilities impacts are generally population driven. The larger share of single-family homes under this alternative would likely increase the demand for surface and groundwater supplies because such housing units have higher demand for water, for example through increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a greater degree than the Plan and result in construction of new, expanded, or relocated facilities. These impacts of this alternative are greater than under the Plan and would be significant.

In addition, this alternative could adversely affect the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater, storm drain,) due to a more dispersed land use pattern that makes it more difficult to efficiently serve the population. All of the alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations.

Wildfire

Under the No Project Alternative, impacts would increase with regards to increased development along the wildland interface that may exacerbate fire risks. The No Project Alternative would result in an additional 43,692 housing units at risk for wildfire as compared to the Plan, resulting in greater potential wildfire risk. Areas with dry vegetation have the potential to exacerbate wildfire risk due to future development activities that could generate flammable debris piles. This is particularly true in the currently rural and underdeveloped parts of the SCAG region. Future roadway and development construction in such areas has the potential to result in significant impacts as a result of construction equipment generating sparks or oil spill and other combustible materials leading to the start and spread of wildfires. This impact would be greater under the No Project Alternative and would be significant.

Alternative 2: Existing Plans - Local Input Alternative

Aesthetics

Impacts to scenic vistas from the land use pattern under this alternative would be less than the Plan, because this alternative assumes lower density development. Structures are likely to be shorter and more dispersed, with less likelihood of blocking or impeding scenic vistas. However, with more development in non-urbanized areas, there could be greater potential for conflicts with scenic vistas which would be a greater impact than the Plan. The transportation network would result in the same number of lane miles as the Plan and therefore potential transportation related impacts would be similar. With a land use pattern that is more dispersed - combined with the same number of capacity-enhancing planned transportation improvements as the Plan, this alternative would have greater impacts to scenic resources along official or eligible state scenic highways.

Conversion of greenfield to development would be more dispersed, as the Existing Plans-Local Input Alternative would consume 54,679 acres compared to the Plan's consumption of 41,546 acres. Because population growth would be less concentrated in existing open areas than the Plan, there would be greater overall impacts to visual character and quality. In urban areas, with regard to conflicts with applicable zoning or regulations regarding scenic quality, there would be similar effects under this

alternative as the Plan since there would be a similar number of transportation projects. The potential for substantial degradation of visual character or quality of public views of sites and their surroundings in non-urbanized areas would be greater under this alternative as compared to the Plan because this alternative would locate more housing within non-urbanized areas. With a more dispersed land use pattern combined with capacity-enhancing planned transportation improvements in non-urbanized areas, this alternative would result in greater impacts to visual quality compared to the Plan and impacts would be significant.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under the Plan because the projected land use pattern of the Existing Plans-Local Input Alternative would be less compact and would result in the direct loss of an additional 8,129 acres of agricultural land converted to urban use compared to the Plan. The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural resources would also be greater for the same reasons and because the same projects are included in the transportation network that have the potential to conflict with or convert forest lands. Similarly, the potential for other changes that could result in the conversion of agricultural land to developed land uses would be greater due to the overall increase in greenfield consumption under this alternative as compared to the Plan.

Air Quality

The Existing Plans-Local Input Alternative would have the same population, housing, and employment as the Plan, but would result in an incrementally less dense land use pattern. Similar to the No Project Alternative, construction emissions would still likely exceed the significance thresholds established in the *CEQA Guidelines* and result in a significant short-term impact. However, in the long term, the Existing Plans-Local Input Alternative would likely have a similar less than significant impact to the AQMPs since development under this alternative would focus the majority of new housing on compact (walkable) locations (although less than under the Plan) and result in a lower VMT than under No Project Alternative. However, the Existing Plan-Local Input Alternative would not implement the same land use strategies as Connect SoCal, therefore the alternative would have higher VMT than the Plan. Thus, while this alternative would reduce particulate matter and ozone precursor emissions compared to the No Project Alternative, emissions would not be reduced to the same level as under the Plan.

As with the Plan, under the Existing Plans-Local Input Alternative, reductions in cancer risk levels associated with diesel particulate matter occur as a result of on-going emission controls. The cancer risk and impact to public health for this alternative would be similar compared to the Plan since the transportation network is the same as the Plan (**Table 4.0-4 Connect SoCal Compared to Alternative Existing Plans-Local Input Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**). There are incremental differences in risk among segments due to differing traffic volumes, however, as for the Plan risk would be reduced substantially as compared to existing conditions.

**Table 4.0-4
Connect SoCal Compared to Existing Plans-Local Input Alternative: Summary of Maximum Exposed
Individuals Residential 30-Year Exposure Cancer Risk**

Segment No.	Transportation Segment	County/Region	Existing Plans-Local Input Alternative (risk in a million)	Connect SoCal (risk in a million)
1	IMP I-8	Imperial/El Centro	14.6	14.5
2	IMP SR-78	Imperial/Westmoreland	20.8	18.9
3	LA I-110	Los Angeles/Carson	24	23.7
4	LA I-710	Los Angeles/Compton	31.1	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	29.1	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	16.4	16.3
7	ORA I-5	Orange/ Orange	5.51	5.49
8	ORA I-405	Orange/ Seal Beach	11.9	11.8
9	RIV I-10	Riverside/ Banning	4.99	4.83
10	RIV SR-15	Riverside/ Temecula	9.57	9.52
11	RIV SR-91	Riverside/ Corona	8.49	8.41
12	SB I-15 ONT	San Bernardino/Ontario	11.1	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	40.7	41.3
14	SB SR-60	San Bernardino/ Ontario	18.5	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.82	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	22	21.9

Source: Impact Sciences, 2019.

Note: Segments 5, 12, 12, 14, and 15 under Existing Plans-Local Input Alternative will have a higher health risk than under the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar, although more dispersed since the same amount of construction will occur but over a more distributed area. Overall impacts to air quality could be incrementally greater when compared to Connect SoCal due to the greater VMT.

Biological Resources

Impacts to candidate, sensitive, or special status species (including plants, wildlife, and fish) under this alternative would be greater than under the Plan, because this alternative's projected land use pattern would be less compact and would result in 12,274 acres of habitat degraded compared to 7,899 acres of habitat degraded under the Plan. While this alternative includes the same total population as the Plan and captures HQTAs strategies, this alternative has a slightly less compact housing mix (57 percent homes and 70 percent jobs in growth priority areas) than the Plan (60 percent homes and 73 jobs percent, respectively) and includes a land use pattern that includes 4 percent of new housing in urban infill areas and 27 percent of new housing in standard suburban housing (compared to 21 percent urban infill and 16 percent standard suburban with the Plan). Further this alternative would have lower high species movement potential by 18,170 acres compared to the Plan.

Impacts to biological resources are directly linked to the amount of land disturbance and habitat conversion in non-urban areas. The land use pattern of this alternative would therefore result in additional conversion in natural habitats and greater impacts to biological resources. Without a more compact land use development pattern as included in the Plan, impacts to biological resources would be more widespread throughout the region and would be greater than the Plan.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological and human remains, and important examples of major periods of California history or prehistory) under this alternative would be greater than under the Plan because this alternative's projected land use pattern would be less compact and include nearly 13,133 additional acres of development (greenfield). The additional land disturbance, such as grading and excavation, resulting from the projected land use pattern and planned transportation improvements of this alternative would result in greater likelihood of encountering unknown surface or subsurface archaeological or human remains; it would also result in greater impacts to the character of settings that contribute to the significance of historic built environments. Construction activities under this alternative would also have greater impacts to historic built environments, archaeological, human remains, and important examples of major periods of California history or prehistory for the reasons provided above.

Energy

The Existing Plans-Local Input Alternative would have greater impacts on the residential energy consumption than the Plan because of the less compact growth pattern (multi-family development is more energy and water efficient than single-family development). Total residential and commercial energy consumption under This alternative would result in an additional 28 trillion Btu, compared to the Plan. Residential and commercial building water use would be 539,233-acre feet higher than the Plan. VMT for this alternative would also increase by more than 11 million VMT. Overall, per-capita energy consumption under this alternative would be greater than under the Plan because this alternative would result in less compact development. Because this alternative includes more single-family homes, which require more energy per capita as compared to attached and multi-family homes, it would likely result in more energy use per capita as compared to the Plan. While compared to existing conditions, per capita energy consumption would go down under this alternative, however 2045 per capita energy consumption would be higher than under the Plan. Therefore, this alternative would result in greater impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations.

This alternative is likely to have a similar impact on state and local plans for renewable energy or energy efficiency as compared to the Plan. Use of some renewable energy sources could be facilitated, while the use of other renewable energy sources could be hindered by this alternative. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

Under this alternative, the following impacts associated with earthquakes and seismic activity would be the same as the Plan: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the projected land use pattern and planned transportation improvements of the Plan. The following operational and construction impacts of this alternative would be greater than the Plan because this alternative includes a less compact land use pattern that would develop nearly 13,133 additional acres: soil erosion and loss of topsoil; on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; development on expansive soil; and inadequate soils for alternative wastewater systems. The more compact land use pattern of the Plan would be expected to result in less land development within areas subject to adverse impacts from the geologic and soils conditions.

Impacts to unique geologic features and paleontological features would be greater under this alternative than under the Plan because the projected land use pattern of this alternative is less compact and would develop nearly 13,133 additional acres. The additional land disturbance resulting from the projected land use pattern combined with planned transportation improvements under this alternative would result in greater impacts to unique geologic features.

Greenhouse Gas Emissions

The GHG emissions for building energy and water-related energy are expected to be slightly greater under the Existing Plans-Local Input Alternative when compared to the Plan as it would develop less infill land use projects which tend to be more efficient than standard development. For transportation, the GHG emissions are projected to be greater under this alternative when compared to the Plan because of increased VMT. The Existing Plans-Local Input alternative would result in greater GHG emissions when compared to the Plan.

Per capita emissions would decrease under this alternative due to the land use strategies being implemented from the 2016 RTP/SCS . However, unlike the Plan, this alternative would not achieve SB 375 targets for 2035 as it would only achieve a 17 percent reduction and would not meet the 19 percent reduction target. The transportation network and land use pattern under this alternative would not achieve the same GHG emissions reductions as the Plan because the Plan includes more integrated transportation and land use strategies. SCAG has no control over many future emissions factors (e.g., energy and water demand), SCAG made extremely conservative assumptions regarding these factors.

Since meeting the regional reduction goals from cars and light-duty trucks would not be sufficient to meet the state's overall GHG reduction goals and the Existing Plans-Local Input Alternative would not meet the SB 375 targets, this alternative would conflict even more with AB 32 and SB 32. As such, this alternative would have a greater impact on GHG emissions than the Plan.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operations under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network

improvements of this alternative and the Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more dispersed land use pattern would be more automobile-oriented than the Plan and could complicate emergency evacuation plans that rely in part on public transit. Therefore, the less compact land use pattern of this alternative would result in greater impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Impacts associated with hydrology and water quality under this alternative would be greater than under the Plan because its significantly less compact land use pattern would result in disturbance to a larger land area during construction activities and would permanently convert a greater amount of land to impervious surfaces, such as parking lots, buildings, roadways, highways, and other paved areas, as compared to the Plan. The additional land area subject to construction disturbance would increase potential for short-term discharge of pollutants from construction sites into surface or groundwater. Construction impacts to hydrology and water quality would be greater under this alternative.

The Existing Plans – Local Input Alternative encourages a housing mix that is slightly less compact (40 percent multifamily and 28 percent single family large lot) than the Plan (42 percent and 27 percent, respectively). This alternative also includes 27 percent of new development as standard suburban compared to 16 percent standard suburban under the Plan. Additional impervious surfaces would interfere with groundwater recharge and alter drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding relative to the Plan. This alternative would require greater storm drainage system capacity than the Plan because of its conversion of additional land area to impervious surface area. In addition, the housing mix of this alternative would include a larger number of large-lot single-family homes which would result in more managed landscaping areas and associated pollutants such as nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality, resulting in greater impacts than the Plan.

The projected land use pattern and planned transportation improvements of this alternative would have the same potential as the Plan to conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan due to the same total, anticipated population growth.

Land Use and Planning

The Existing Plans–Local Input Alternative has a similar transportation network as the Plan. New growth would occur consistent with local general plans as a result of the local input process and would overall be more dispersed compared to the Plan. The less compact land use pattern of this alternative provides less connectivity within existing communities because of its more dispersed allocation of future growth, but it would not physically divide any existing communities. This impact is the same as under the Plan. New roadway or highway improvements can physically divide existing communities by providing physical barriers where none previously existing. Expansion of existing roadways and highways also can physically divide existing communities to the extent that wider facilities with additional lanes represent greater physical barriers than narrower facilities. The planned transportation improvements of this alternative would be generally the same as the Plan and would result in similar land use impacts.

Because this alternative is largely based on local plan, conflict with plans could be reduced compared to the Plan. However, most general plans are not updated to reflect the year 2045, as such there is the potential for conflict with Plans that have not been updated to the Plan’s horizon. This impact would therefore be similar and would be significant.

Mineral Resources

The Existing Plans-Local Input Alternative could result in greater loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the greater amount of land that would be converted to urban land potentially covering more mineral resource extraction opportunities. Transportation network improvements would occur similar to the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the transportation network improvements. However, overall impacts related to aggregate would be greater than the Plan.

Noise

The Existing Plans-Local Input Alternative would generate noise levels generally similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. However, the less compact land use pattern of this alternative would direct more housing to non-urbanized areas, increasing localized operational noise levels in these areas that tend to have lower existing noise levels than more developed communities. Noise thresholds could be exceeded in these communities. The roadway and highway improvements under this alternative would be similar to the Plan and therefore impacts would be similar.

There would similar, but potentially greater construction-related noise impacts under this alternative due to the nearly 13,133 acres of additional land area (greenfield) that would be subject to disturbance during construction activities associated with the less compact land use pattern. This would increase the number of separate construction sites, which would exacerbate overall noise levels associated with construction activities. However, fewer sensitive receptors may be impacted due to construction occurring in less urban locations.

The projected land use pattern of this alternative, while less compact than the Plan, would not result in land use types that would result in different levels of vibration or groundborne noise. The planned transportation improvements would be the same as the Plan, this would also not result in significantly different levels of vibration or groundborne noise. This impact is the same under this alternative and would be significant.

Regarding aviation noise, this alternative would have similar impacts as the Plan. Neither the Plan, nor the alternatives affect airport operations or capacity. While different land use patterns could result in more or less housing in flight paths as compared to the Plan, there are a nearly infinite number of variables that could occur (flight path, housing location, zone changes, etc.). Overall, it is expected aviation noise impacts under this alternative would be largely similar to the Plan.

Population and Housing

Impacts related to population and housing should be similar under all alternatives, because the same number of people and dwelling units are assumed. The less compact land use pattern of this alternative have the potential to result in displacement of substantial numbers of people or existing housing that necessitates the construction of replacement housing elsewhere. Under this alternative, the same number of transportation investments would be made to the transportation network as in the Plan. As a result, impacts related to population growth, population displacement, and the need to construct replacement housing would be similar to the Plan and would be significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed and public service impacts are generally population driven. However, this alternative could worsen the ability to achieve local levels of service due to the more dispersed land use pattern that makes it more difficult to efficiently serve the population. This impact is greater than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan.

Similarly, with regard to the need for additional schools and libraries, impacts would be similar to the Plan. This is because each alternative would result in the same population totals. While it is possible there could be less demand in urban areas and more demand in suburban areas, overall impacts would be similar to the Plan. Given the increased growth in suburban areas, this alternative could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school and library facilities in order to maintain acceptable service ratios. Impacts would be significant and similar to the Plan.

Recreation

This alternative is anticipated to result in recreation impacts less than those that would be generated under the Plan. Although the same total population, housing and employment are assumed, with no concentration of growth, the park usage would be more dispersed in urban and suburban areas leading to a reduced need for expansion or construction of recreation facilities, and place additional demand on larger regional parks; however as the region is well-served with regional parks, impacts would be reduced compared to the Plan. Impacts related to the construction of new parks would be similar to the Plan as the types of park construction impacts that would occur would be the same.

Transportation, Traffic, and Safety

The Existing Plans-Local Input Alternative would result in more miles traveled, more vehicle hours traveled, and more delay than the Plan. In 2045, this alternative would result in 23.41 VMT per capita and 14,539,787 VHT. Implementation of the Plan would reduce vehicle miles traveled by approximately 2 percent to 22.89 VMT per capita, reduce VHT by 3 percent to 14,130,874 VHT. VHD per capita would remain the same at 0.12; however total VHT would be reduced by 155,568.

The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT, and VHD data under this alternative.

This compact development pattern included in the Plan would concentrate population in urban areas and encourage alternative modes of travel other than automobiles. While this alternative captures the HQTAs-focus based on local plans, it encourages a land use pattern and housing mix that is slightly less urban, less compact, and more suburban compared to the Plan. Also, this Alternative has slightly less compact land use and transit coordination in HQTAs (46% homes and 55% jobs) than that for the Plan (48% homes and 59% jobs). Vehicle miles traveled, vehicle hours of delay, worker commute trips, and accident rates would be higher than under the Plan resulting in a less efficient transportation system

overall. Further, this alternative would not achieve VMT reductions necessary to meet the state's climate goals.

Tribal Cultural Resources

This alternative would result in greater impacts to tribal cultural resources when compared with the Plan. Under this alternative, there would be an additional 13,133 acres of greenfield land consumed, which would have the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. Due to the less compact land use pattern and the increase in greenfield consumed, impacts would be greater under this alternative and would be significant.

Utilities and Service Systems

This alternative is anticipated to result in similar impacts to utilities and service systems to those that would be generated under the Plan because the same total population, housing, and employment are assumed, and these areas are generally population driven. The larger share of single-family homes under this alternative would likely increase the demand for surface and groundwater supplies because such housing units have higher demand for water, for example due to increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a greater degree than the Plan and result in construction of new, expanded, or relocated facilities.

The population assumed in alternative is the same as under the Plan, thereby resulting in similar need for solid waste disposal and transfer facilities to accommodate the population.

In addition, this alternative could adversely affect the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater and storm drain) due to a more dispersed projected land use pattern that makes it more difficult to efficiently serve the population. All of the alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations.

Wildfire

The Existing Plans-Local Input Alternative would result in greater wildfire threat than the Plan. This alternative consumes 13,133 more greenfield acres than the Plan and would result in an additional 43,692

housing units in wildfire risk areas compared to the Plan. Additionally, it includes the same transportation investments as the Plan. However, the more dispersed pattern of development would result in a greater wildfire risk than the Plan. Impacts would be significant.

Alternative 3: Intensified Land Use Alternative

Aesthetics

The Intensified Land Use Alternative has the highest percentage of new housing as urban infill (16 percent) and the smallest development footprint among the alternatives and the Plan. Impacts to scenic resources from the land use pattern under this alternative in urban areas would be greater than under the Plan because this alternative assumes higher density and intensity of development; however, the impact would be less in suburban and rural areas as less development would occur in these locations. New structures would be taller and more concentrated, with greater likelihood of blocking or impeding scenic vistas. Impacts from transportation projects to scenic vistas would be the same as the Plan since the transportation network would be the same as the Plan.

The potential for substantial degradation of visual character or quality of public views of sites and their surroundings in non-urbanized areas would be less under this alternative as compared to the Plan because under this alternative a smaller share of the projected land use pattern would be located within existing non-urbanized areas. Impacts to visual quality in urbanized areas would be similar to the Plan because existing zoning and other regulations typically address visual quality and would be equally enforced under this alternative. With development focused in urban areas there would be less potential for light and glare impacts as light and glare is already occurring in urban areas, and impacts would be less than the Plan, but would remain significant.

Agriculture and Forestry Resources

Conversion of agricultural land (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance), forest land, timberland, and timberland zoned Timberland Production to non-agricultural, non-forest, or non-timber uses under this alternative would be greater than under Plan because the projected land use pattern under the Intensified Land Use Alternative convert 1,831 more acres of agricultural land to urban use, although the transportation network would be generally the same. The more compact land use pattern would reduce the amount of land disturbance overall (less greenfield developed). Under this alternative, there would be 9,299 fewer greenfield acres converted to other uses compared to the Plan. The improved land use and transit coordination would require less acreage to accommodate future growth and a higher concentration of development in urban areas will reduce the

conversion of agricultural uses. However, the loss of agricultural land would still be significant and would be greater than with the Plan.

The potential for conflicts with zoning, land use designations, Williamson Act contracts, and/or other applicable regulations that protect agricultural would also be greater for the same reasons. However, the potential for conflicts with agricultural lands would still be significant. Regarding forest land, impacts would be similar to the Plan due to the similar transportation networks and would remain significant.

Air Quality

The Intensified Land Use Alternative would have the same population, housing, and employment as the Plan, but would result in a denser land use pattern. Similar to the Plan, construction emissions would likely exceed the significance thresholds established in the *CEQA Guidelines* and result in a significant short-term impact especially considering multiple projects occurring in a condensed area. In the long term, Alternative 3 would have a similar impact to the local AQMPs and a reduced cumulative impact since development projects would be more efficient than the Plan, resulting in fewer emissions.

As with the Plan, under this alternative results in substantial reductions in cancer risk levels associated with diesel particulate matter would occur as compared to existing conditions. The cancer risk and impact to public health for this alternative would be similar compared to the Plan since the transportation network is the same as the Plan with minor adjustments for land use and transit coordination strategies (**Table 4.0-5, Connect SoCal Compared to Intensified Land Use Alternative: Summary of Maximum Exposed Individuals Residential 30-Year Exposure Cancer Risk**).

Table 4.0-5
Connect SoCal Compared to Intensified Land Use Alternative: Summary of Maximum Exposed
Individuals Residential 30-Year Exposure Cancer Risk

Segment No.	Transportation Segment	County/Region	Intensified Land Use Alternative (risk in a million)	Connect SoCal Plan (risk in a million)
1	IMP I-8	Imperial/El Centro	14.2	14.5
2	IMP SR-78	Imperial/Westmoreland	19.6	18.9
3	LA I-110	Los Angeles/Carson	23.7	23.5
4	LA I-710	Los Angeles/Compton	31.3	30.9
5	LA SR-60 DB	Los Angeles/Diamond Bar	29.2	29.7
6	LA SR-60 SEM	Los Angeles/ South El Monte	16.9	16.3
7	ORA I-5	Orange/ Orange	5.59	5.49
8	ORA I-405	Orange/ Seal Beach	11.9	11.8
9	RIV I-10	Riverside/ Banning	4.83	4.83
10	RIV SR-15	Riverside/ Temecula	9.54	9.52
11	RIV SR-91	Riverside/ Corona	8.38	8.41
12	SB I-15 ONT	San Bernardino/Ontario	10.9	10.5
13	SB I-15 VIC	San Bernardino/ Victorville	41	41.3
14	SB SR-60	San Bernardino/ Ontario	18.5	18.8
15	VEN US-101 SB	Ventura/ San Buenaventura	4.84	4.85
16	VEN US-101 TO	Ventura/ Thousand Oaks	22	21.9

Source: Impact Sciences, 2019.

Note: Segments 2-4, 6-8, 10, 12, and 16 under Alternative 3 would have higher health risks than the Plan.

Health risk associated with construction activities would be similar to the Plan and potentially significant adjacent to extended intense construction activities.

Objectionable odors are expected to be similar as well since construction impacts will be similar to the Plan.

Overall impacts to air quality could be incrementally less when compared to Connect SoCal due to the more compact growth pattern and reduced VMT.

Biological Resources

Impacts on candidate, sensitive, or special status species (including plants, wildlife, and fish) under the Intensified Land Use Alternative would be less than under the Plan because this alternative's projected land use pattern would be more compact and include approximately 9,299 fewer acres of greenfield development, this alternative would result in incrementally less impact related to biological resources

when compared with the implementation of the Plan. Impacts to biological resources are directly linked to the amount of native habitat conversion in non-urban areas a potential project proposes. Under this alternative, there would be an additional 990 acres of high species movement potential maintained compared to the Plan. While this alternative would affect fewer acres of natural lands, impacts to biological resources in and near the urban areas would remain significant because impacts to sensitive species could still occur.

Cultural Resources

Impacts to cultural resources (historic built environments, archeological, and human remains, and important examples of major periods of California history or prehistory) under this alternative would be less than under the Plan because this alternative's projected land use pattern would be more compact and include approximately 9,299 fewer acres of greenfield development in the same transportation network. The reduced land disturbance, such as grading and excavation, resulting from the projected land use pattern of this alternative would result in lower likelihood of encountering unknown surface or subsurface archaeological, or human remains. However, increased development in urban areas, where historic buildings tend to be located could result in greater impacts to the character of settings that contribute to the significance of historic built environments, as pressure to redevelop historic buildings increases. Construction activities under this alternative would also have less impacts to historic built environments, archaeological, human remains, and important examples of major periods of California history or prehistory for the reasons provided above.

Energy

The Intensified Land Use Alternative contains more infill development to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. As a result, residential energy consumption, building energy consumption, and water consumption would incrementally decrease compared to the Plan because there would be a higher percentage of multi-family units and higher density in the land use. Individual detached structures require more energy for materials, more materials overall, and more fuels to build than would be needed for attached structures. This alternative also includes a housing mix with fewer single-family homes (48 percent) and more townhome or multifamily homes (8 and 44 percent) as compared to the proposed Plan (48 percent single family and 8 and 42 percent multi-family, respectively). As a result, this alternative would likely result in lower energy use per capita because attached homes require less energy per capita as compared to large-lot single-family homes. At 335 trillion Btu, this alternative's residential energy would result in similar but somewhat lower consumptive energy use than the Plan (338 trillion Btu). Per-capita energy consumption under this

alternative would be lower than under the Plan because this alternative would result in a more compact land use pattern. This alternative would result in less impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction activities and long-term operations. Impacts would continue to be less than significant.

This alternative is likely to have less impact on state and local plans for renewable energy or energy efficiency as compared to the Plan as it would be overall more energy efficient. Implementation of the California Energy Code and State goals for increasing the percentage of electricity from renewable and zero-carbon sources under this alternative would be the same as under the Plan.

Geology and Soils

The following impacts associated with earthquakes and seismic activity under this alternative would be the same as the Plan: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and landslides. Existing state and local building code requirements addressing substantial adverse effects due to earthquakes and seismic activity would apply to the land use pattern and planned transportation improvements of the Plan. The following operational and construction impacts of this alternative would be less than the Plan because this alternative includes a more compact land use pattern that would develop approximately 9,299 fewer acres: soil erosion and loss of topsoil; on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; development on expansive soil; and inadequate soils for alternative wastewater systems.

Impacts to unique geologic features would be less under this alternative than under the Plan because the land use pattern of this alternative is more compact and would develop fewer acres in the same transportation network. The decreased land disturbance resulting from the projected land use pattern and planned transportation improvements under this alternative would result in less impacts to unique geologic features.

Greenhouse Gas Emissions and Climate Change

The GHG emissions for building energy and water-related energy are expected to be less with the Intensified Land Use Alternative compared to the Plan as this alternative would develop a more intense land use pattern with increased infill and compact development which tends to be more efficient than large lot development. For transportation, the GHG emissions are projected to be less under this alternative compared to the Plan because of decreased VMT. This alternative would improve regional GHG emissions compared to the Plan.

As with the Plan, this alternative would reduce per capita GHG emissions from cars and light-duty trucks compared to the 2005 baseline so it would achieve both the 8 percent target set for 2020 and exceed the 19 percent set for 2035, set pursuant to SB 375.

Since meeting the regional reduction goals from cars and light-duty trucks would not be sufficient to meet the state's overall GHG reduction goals this alternative would conflict with AB 32 and SB 32. The Plan would have the same impact as this alternative.

Hazards and Hazardous Materials

Hazardous materials impacts to the public or the environment associated with construction activities and operation under this alternative would be the same as the impacts under the Plan. This is because of the numerous federal, state, and local requirements and regulations that minimize the creation of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and through handling of hazardous materials, substances, and waste within 0.25 mile of an existing or proposed school. These existing requirements and regulations would apply equally to the different projected land use patterns and planned transportation network improvements of this alternative and Plan, so impacts would be the same. The same is true for existing requirements and regulations addressing potential safety hazards and excessive noise within an airport land use plan or within two miles of a public or public use airport, so airport-related safety and noise impacts to people residing or working in the plan area would be the same under this alternative.

The more compact land use pattern under this alternative would be more transit-oriented than the Plan and could complement emergency evacuation plans that rely in part on public transit to a greater degree. Therefore, this alternative would result in less impacts associated with impairing the implementation of adopted emergency response and emergency evacuation plans.

Hydrology and Water Quality

Impacts associated with hydrology and water quality under this alternative would be less than under the Plan because its more compact land use would result in disturbance to a smaller land area during construction activities and would permanently convert a smaller amount of land to impervious surfaces, such as parking lots, buildings, roadways, highways, and other paved areas, as compared to the Plan. The decreased land area subject to construction disturbance would decrease potential for short-term discharge of pollutants from construction sites into surface or groundwater.

The decreased land area permanently converted to impervious surfaces would decrease the potential volume and increase the water quality of stormwater flows relative to the Plan. Less impervious surface also would reduce interference with groundwater recharge and result in less alteration of drainage patterns in a manner that would increase the potential for substantial erosion, siltation, and flooding. This alternative would require less storm drainage system capacity than the Plan because of its conversion of reduced land area to impervious surface area. In addition, the housing mix of this alternative would include a smaller share of single-family homes, which would result in less managed landscaping areas and associated pollutants such as nutrients, herbicides, and irrigated runoff, which in turn could adversely affect surface and groundwater quality. Impacts to groundwater recharge, erosion, siltation and flooding would be less than the Plan but would remain significant.

Land Use and Planning

The more compact land use pattern of this alternative provides more connectivity within existing communities, so it would not physically divide any existing communities. This impact is the same as under the Plan. New roadway or highway improvements can physically divide existing communities by providing physical barriers where none previously existing. Expansion of existing roadways and highways also can physically divide existing communities to the extent that wider facilities with additional lanes represent greater physical barriers than narrower facilities. The planned transportation improvements of this alternative would be generally the same as the Plan network, which means it would result in similar impacts from physically dividing existing communities.

Because this alternative would include a more compact land use that would result in decreased land disturbance relative to the Plan, it would have less impacts to resources within the region including agriculture, biological resources, and recreational land. Alternative 3 would result in similar impacts with regard to physically dividing an established community due to the similar scale and number of transportation projects being constructed. This alternative would have greater potential to conflict with local land use plans as the greater amount of infill projected may be beyond what is currently considered in some local land use plans. This impact would be greater than the Plan and would be significant.

Mineral Resources

Alternative 3 could result in less loss of availability of known mineral resources that would be of value to the region and the residents of the state, as well as locally important mineral resources, due to the reduction in land that would be converted to urban land potentially covering more mineral resource extraction opportunities. Transportation network improvements would occur similar to the Plan, requiring a comparable amount of aggregate resources to be used for the construction of the

transportation network improvements. Although transportation network impacts would be similar under this alternative, overall impacts would be less than the Plan and would remain significant.

Noise

This alternative would generate noise levels generally similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. However, the more compact land use pattern of this alternative would direct less housing growth to in non-urbanized areas, decreasing construction and operational noise levels relative the Plan in areas that tend to have lower existing noise levels than more developed communities. Noise thresholds would be less likely to be exceeded.

The projected land use pattern of this alternative, while more compact than the Plan, would not result in land use types that would result in different levels of vibration or groundborne noise. There would potentially be less construction-related noise impacts under this alternative due to the approximately 9,299 fewer acres of land area that would be subject to disturbance during construction activities associated with the less compact land use pattern. This would decrease the number of separate construction sites, which would decrease overall noise levels associated with construction activities relative to the Plan.

The planned transportation improvements of this alternative would include the same lane miles of roadway and highway improvements, and this would also not result in significantly different levels of vibration or groundborne noise relative to the planned transportation improvements identified in the proposed Plan. This impact is the same under this alternative and would remain significant. With regard to aviation noise, impacts would be similar to the Plan as this alternative would not affect airport capacity.

Population and Housing

Impacts related to population and housing would be similar under all alternatives, because the same number of people and dwelling units are assumed. The more compact land use pattern of this alternative combined with the same lane miles of roadway and highway improvements would not result in displacement of substantial numbers of people or existing housing that necessitates the construction of replacement housing elsewhere. This impact is the same as the Plan and would remain significant.

Public Services

This alternative is anticipated to result in public service impacts similar to those that would be generated under the Plan, because the same total population, housing, and employment are assumed. However, this alternative could result in less demand on the ability to achieve local levels of service due to the more compact land use pattern that makes it more efficient to serve the population. This impact is less than the Plan. The planned transportation improvements of this alternative would have the same public services impacts as the Plan. It is possible that denser development in urban areas, although more efficient from a service perspective, could result in the need for more police and fire services from a demand perspective resulting in a need for new facilities to maintain service ratios. Nonetheless, due to the more efficient land use pattern, this impact would be less than the Plan. Similarly, the more compact land use pattern would more efficiently serve the population for schools and libraries. However, there still could be need for new facilities resulting in physical impacts. As such this impact would be significant, but less than the Plan.

Recreation

With the same population growth across all alternatives impacts would be expected to be similar. However, with more compact development, there could be increased pressure on urban parks which are currently overburdened. With higher population density, there would more use of the same parks, leading to greater deterioration of existing recreational facilities in urban areas. As such, impacts could be greater than the Plan.

Transportation, Traffic, and Safety

The Intensified Land Use Alternative would result in greater transportation impacts than the Plan. Alternative 3 would result in slightly lower VMT (total and per capita), less VHD and less VHT. In 2045 Alternative 3 would result in 22.83 VMT per capita, 14,074,675 VHT and 2,619,980 VHD. Comparing these number to the Plan (22.89 VMT per capita, 14,130,874 VHT and 2,668,229 VHD). Despite the overall reduction in VMT and VHD as compared to the Plan, this alternative does not maximize mobility and accessibility for all people and goods in the region to the extent of the Plan because it results in more severe localized traffic congestion conditions with adverse mobility and reliability consequences for goods and people (increased vehicle and truck delay). The effects of growth and other external factors are included in the Regional Travel Demand Model that produces the results reported above. Because these external factors are modeled, the cumulative effects of regional growth are captured in the VMT, VHT and VHD data for this alternative. This alternative could increase localized congestion and compromise accessibility to destinations which would result in more adverse effects related to safety considerations for pedestrians, cyclists, and motorists. Hence, this Alternative could have somewhat more adverse

impacts than the Plan related to design hazards. Regarding emergency access, the more dense land use patterns of this alternative could result in more efficient emergency access. Impacts would be less than the Plan.

Tribal Cultural Resources

This alternative would result in less impacts to tribal cultural resources when compared with the Plan. Under this alternative, there would be 9,299 fewer acres of greenfield land consumed, which would reduce the potential to impact previously undiscovered tribal cultural resources, such as archaeological resources, sacred sites, or human remains. Due to the more compact land use pattern and the reduction in greenfield consumed, impacts would be less under this alternative.

Utilities and Service Systems

This alternative is anticipated to result in impacts to utilities and service systems similar to those that would be generated under the Plan because the same total population, housing, and employment are assumed. With less single-family homes, this alternative could decrease demand for surface and groundwater supplies because such housing units have higher demand for water. Single family homes typically required additional water due to increased irrigation demand for landscaping areas and additional appliances and fixtures that use potable water (e.g., sinks, toilets, showers). As a result, this alternative could exceed the capacity of existing water storage, conveyance, distribution, and treatment facilities to a lesser degree than the Plan. These impacts of this alternative are less than under the Plan but would remain significant.

This alternative could result in greater impacts related to adversely affecting the capacity of the necessary utility conveyance and distribution systems (e.g. wastewater, storm drain,) due to the more compact land use pattern that, although more efficient, in many urban areas is aging and may not be capable of supporting increased loads. Overall the alternative would demand less water and energy during construction compared to the Plan. All alternatives would be required to follow the same federal, state, and local statutes and regulations related to solid waste. This alternative would have the same impact related to solid waste generation and conflicts with solid waste management and reduction statutes and regulations

Wildfire

The Intensified Land Use Alternative would result in fewer impacts related to wildfires than the Plan. This alternative would result in fewer housing units in wildfire zones compared to the Plan. Therefore,

fewer people and structures would be placed within proximity to wildfire-prone areas at urban-wildland interfaces. Impacts would be less than the Plan.

4.4 ABILITY OF ALTERNATIVES TO MEET THE PROJECT OBJECTIVES

The effectiveness of each of the alternatives to achieve the basic objectives of the Plan has been evaluated in relation to the statement of goals and guiding principles described above. Although the No Project Alternative is not capable of meeting most of the goals of the Project, it has been analyzed, as required by CEQA.

The Existing Plans – Local Input Alternative, meets some but not all the project goals. Specifically, it is less effective than the Plan in meeting Plan goals:

1. Encourage regional economic prosperity and global competitiveness. The Existing Plans – Local Input Alternative would not include the strategies in the Plan (for example, strategies related to job centers and goods movement) that will enhance regional prosperity.
2. Improve mobility, accessibility, reliability, and travel safety for people and goods. As demonstrated above, the Existing Plans – Local Input Alternative would not reduce VMT to the same extent as the Plan and would not achieve the GHG reduction goals set by CARB.
3. Enhance the preservation, security, and resilience of the regional transportation system. The Existing Plans – Local Input Alternative does not include the Plan’s safety and resilience strategies and therefore would not achieve this goal.
4. Increase person and goods movement and travel choices within the transportation system. The Existing Plans – Local Input Alternative does not include the goods movement strategies aimed at increasing person and freight mobility, including critical access projects.
5. Reduce greenhouse gas emissions and improve air quality. The Existing Plans – Local Input Alternative would not reduce greenhouse gas emissions or improve air quality to the same extent as the Plan.
6. Support healthy and equitable communities. The Existing Plans – Local Input Alternative would not include the regional strategies for complete streets and jobs/housing balance and planning for trips that reduce dependence on solo car trips.
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network. The Existing Plans – Local Input Alternative would not include the “green

region” strategies such as supporting climate action plans, renewable energy production, and integrated food production.

8. Leverage new transportation technologies and data-driven solutions that result in more efficient travel. The Existing Plans – Local Input Alternative would not include strategies such as promoting low emissions technologies, shared rides, car and bike sharing and scooters, as well as improving access to services through technology.
9. Encourage development of diverse housing types in areas that are supported by multiple transportation options. The Existing Plans – Local Input Alternative would not include the Plan’s strategies to focus growth near destinations and mobility options.
10. Promote conservation of natural and agricultural lands and restoration of critical habitats. The Existing Plans – Local Input Alternative would result in the consumption of more natural lands and habitat lands as compared to the Plan.

The Intensified Land Use Alternative is capable of meeting most of the goals of the Plan. However, because it would place a large portion of growth in existing communities it may conflict with local plans or place a burden on some community facilities such as parks and other services to a greater extent than the Plan. Therefore, it is less effective in meeting the following goal:

6. Support healthy and equitable communities. The Intensified Land Use Alternative would not achieve this goal to the same extent as the Plan due to its focus on compact development beyond what is currently contemplated under the Plan. The emphasis on development in urban communities may result in overuse of parks and other services (police, fire, schools, library) which has the potential to result in quality of life impacts in urban areas.

As further described below, consideration of alternatives requires careful examination of the multiple facets of each alternative. For example, while urban development may preserve farmland or other natural resources, it could place a burden on urban parks, schools, police and fire services, and aging infrastructure.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6 of the *State CEQA Guidelines* requires that an “environmentally superior” alternative be selected among the alternatives that are evaluated in the EIR. In general, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. If the No

Project alternative is identified as environmentally superior, then another environmentally superior alternative shall be identified among the other alternatives.

For purposes of this PEIR, the impacts associated with reducing global GHG emissions and regional air pollutants must be examined alongside the other adverse impacts that are caused by increasing the density and intensity of the region's development patterns and, for example, bringing people closer to sources of air pollutants such as transit corridors and freeways (even though these sources would have fewer emissions in the future, despite increasing traffic, due to emission controls). The tension between CEQA's mandate to reduce all types of impacts to the maximum extent feasible, and the statutory mandates of reducing GHG emissions under AB 32, SB 32 and SB 375, is a well-recognized CEQA compliance challenge.⁹ CEQA does not provide any legal mechanism for "weighting" environmental impacts, and scoring some categories of impacts as "more important" and others as "less important." Instead, CEQA is structured to require the disclosure of all impacts for each alternative and the Plan, to foster informed decision making and to disclose the inherent trade-offs between different types and magnitudes of impacts associated with different alternatives.

As indicated by the comparative analysis, the Plan and each Alternative result in many impacts that are "significant and unavoidable" under CEQA. Alternative 3, the Intensified Land Use Alternative, would result in somewhat less adverse impacts for nine of the 20 environmental issues that were analyzed. The anticipated increases in the density and intensity of development within the region's established communities under Alternative 3 would result in more localized impacts that are greater than the Plan in four areas (land use; noise; public services and recreation). This alternative would also consume more agricultural land.

Of the three alternatives, the Intensified Land Use Alternative would be considered the environmentally superior alternative due to fewer impacts to reduced VMT and GHG emissions, and because it would substantially restrict the use of land for single-family development, in a manner that differs from the adopted general plans of the six counties and 191 member cities in the SCAG region. This alternative concentrates development in existing urban centers, and near transit stations and activity centers. As such, the Intensified Land Use has less impact on rural and undeveloped areas, specifically greenfields. However, the Intensified Land Use Alternative would have more severe impacts on the built environment (i.e., seven CEQA impact categories: land use; noise and vibration, public services, traffic delay, and overtaxed recreation facilities in the vicinity of HQTAs).

⁹ Adams, Tom (California League of Conservation Voters), and Amanda Eaken and Anne Nothoff (Natural Resources Defense Council). 2010. Tackling California's Global Warming Challenge: A Guide to SB 375, by Tom Adams (California League of Conservation Voters), p. 24.

While the Intensified Land Use Alternative would be considered the environmentally superior alternative because of the more compact land use patterns fewer emissions and reduced VMT, this alternative requires implementation of the same mitigation measures required for the Connect SoCal Plan and would not resolve any of the significant and unavoidable impacts of the Plan. However, the more intensified and compact land use development pattern would result in somewhat less adverse impacts to energy, land, and water resources due to the denser pattern of development. The Intensified Land Use Alternative would also achieve greater overall reductions in criteria air pollutants and greenhouse gas emissions, as a result of the more compact pattern of land use development. The level of impact for the Existing Plan – Local Input Alternative and the Intensified Land Use Alternative varies in relation to the land use development pattern, but neither is capable of avoiding any of the significant and unavoidable impacts of the Plan, because those impacts are primarily associated with net increase in population anticipated for the SCAG region. Therefore, the comparative impacts between the alternatives and the Plan are primarily related to the level of severity of the impacts.

Similarly, the No Project Alternative does not avoid the significant and unavoidable impacts of the Plan, and in several instances the impacts would be more adverse due to the failure to achieve reductions in the consumptive use of land, energy, and water resources achieved through the policies and program embedded in the Plan that facilitate a more efficient use of these resources.

As discussed throughout this PEIR, SCAG has no land use authority; rather it sets regional land use policy. SB 375 addresses the land use component (in the context of transportation planning) of statewide efforts to achieve AB 32 GHG reduction goals that include all sectors of the economy. In order to meet the SB 375 targets for statewide GHG reductions, CARB identified that SCAG must plan to reduce GHG emissions by 19 percent by 2035. SCAG has developed the SCS (the regional land use policy component of Connect SoCal) which sets forth land use strategies to meet these GHG emissions reduction targets. Actual implementation of the SCS will be undertaken by local jurisdictions through general plans and specific plans and through actions on individual projects.

While the Intensified Land Use is one potential generalized land use scenario that results in achieving CARB GHG targets (as well as reducing impacts on open space and agricultural lands), the Intensified Land Use Alternative would have other impacts. For example, the Intensified Land Use Alternative would result in more development in urban areas potentially overloading infrastructure in some areas. The jurisdiction that is anticipated to receive most of the infill development under this alternative is the City of Los Angeles. It is possible, that the zoning in the City of Los Angeles would be sufficiently flexible to accommodate the additional units by 2045, but it is not certain that it would. This scenario assumes that very little development would be approved outside urban areas, which could require zoning

changes or land use interventions beyond those currently in place. In addition, as urban areas become denser (more units per acre), urban infrastructure is used more:

- Water and sewer lines are required to carry more, greater than the current capacity, which could result in the need to construct additional capacity in the older infill areas at significant cost.
- Demand for police and fire services increases requiring expansion of existing stations and service personnel (although significant environmental impacts are not anticipated from such construction).
- Parks are used more, resulting in potential crowding and/or over use, with facilities becoming worn and substandard (grass becomes over used and dies, equipment breaks, etc.) and/or the need to construct more parks and recreational facilities.

Passenger vehicle transportation infrastructure cannot accommodate peak period volumes creating increased congestion, noise and air emission impacts. Increasing population in the infill core areas could also reduce mobility for goods movement which cannot use alternative modes during peak periods, resulting in more trucks in stop and go traffic, impacting air quality, and noise. While development outside urban areas would likely require the construction of new infrastructure, it would occur in less populated areas and would expose fewer people to construction impacts. Also, in general infrastructure in less urban areas has greater available capacity since infrastructure is generally sized for capacities that can accommodate substantially more than the current densities (parks, police stations, water lines, etc. have minimum sizes that can generally accommodate more than rural level density). New development on the periphery is often closer to higher capacity sewer trunk lines, treatment plants and water wells, lowering infrastructure costs compared to retrofitting older existing urban areas.

Furthermore, as more people are located in the same area, urban impacts increase. Congestion increases, noise and air emissions in proximity to sensitive receptors (residences, schools, hospitals, etc.) also increase.

Each community must determine what level of population it can support – balancing infrastructure capacity and population density. In developing the Plan, SCAG has satisfied its obligation under SB 375 to identify a policy and growth pattern that meets desired GHG reduction goals.

The Plan provides general guidance on location of development. The Plan does not impose specific land use controls. This EIR evaluates a number of potential scenarios. It will be up to each jurisdiction to interpret the Connect SoCal land use strategies and through ongoing monitoring of key performance measures (in cooperation with SCAG), monitor GHG reductions. Through ongoing monitoring SCAG

will adjust regional policy as needed (in the next RTP/SCS or in interim amendments if needed) to ensure that the region complies with applicable State law including AB 32 and SB 375.

SCAG is not rejecting the Intensified Land Use Alternative or any alternative with increased density and/or greater percentage of high-density housing that might fall between the Intensified Land Use Alternative and the Plan as a possible land use scenario for 2045. Rather, SCAG is rejecting the inclusion of policies in the Plan that would impose extensive land use intervention (to mandate specific land use densities and/or specific locations) with local jurisdictions because SCAG has no land use authority and no mechanism exists to impose detailed land use changes.

5.0 OTHER CEQA CONSIDERATIONS

Section 15126 of the *California Environmental Quality Act (CEQA) Guidelines* states that an Environmental Impact Report (EIR) must include a discussion of the following topics:

- growth-inducing effects of the proposed project
- significant environmental effects which cannot be avoided if the proposed project is implemented
- significant irreversible environmental changes which would be involved in the proposed project should it be implemented; and

In addition, Section 15128 of the *State CEQA Guidelines* requires a brief statement of the reasons that various possible effects of a project have been determined not to be significant and, therefore, are not discussed in detail in the EIR. This PEIR analyzed all potential effects of the project as described in Appendix G of the *State CEQA Guidelines*, therefore, there is no listing of effects determined not to be significant.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROJECT THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

An EIR must identify significant impacts associated with a proposed agency action that could not be mitigated to a less than significant level. Many of the impacts that are determined to be significant and unavoidable could be mitigated to less than significant at the project level. However, this PEIR evaluates impacts at a programmatic level, and detailed site plans and project descriptions are not available. Therefore, without the ability to evaluate each project that could occur as a result of the Plan, these impacts were determined to be significant and unavoidable.

Table ES-5, Summary of Project Impacts, Mitigation Measures, and Residual Impacts, which is contained in the **Executive Summary** of this PEIR, and **Sections 3.1 through 3.21** of this PEIR provide a comprehensive identification of the environmental effects of the SCAG's proposed Connect SoCal Plan, including the level of significance both before and after mitigation.

Section 15126.2(c) of the *CEQA Guidelines* requires that an EIR (including a PEIR) describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the Plan would result in significant and unavoidable project-related and/or cumulative impacts in the following areas:

- **Aesthetics:** Implementation of transportation projects contained in the Plan and development projects anticipated to occur under the Plan may result in the conversion of open space or vacant lands to new uses. Areas potentially affected include designated open space visible from USFS, Caltrans, county, and city designated scenic vistas. The Plan would also have the potential to impact rock outcroppings or other scenic elements such as historic resources within eligible state scenic highways. Many of the transportation projects and the HQTAs are in areas with designated scenic resources including historic buildings and scenic rock outcroppings. Therefore, there is potential for the Plan to affect these resources. Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to degrade the visual character of project sites, constituting a significant impact. Implementation of transportation projects contained in the Plan and development anticipated to occur under the Plan has the potential to create new substantial sources of light or glare, constituting a significant impact.
- **Agriculture and Forestry Resources:** Implementation of transportation projects as well as growth anticipated under the Plan would have the potential to convert the following to non-agricultural use: Prime Farmland, Farmland of Statewide Importance, Unique Farmland and Farmland of Local Importance. Implementation of the transportation projects and growth anticipated under the Plan would have the potential to conflict with land managed pursuant to Williamson Act contracts constituting a significant impact. Implementation of the transportation projects and anticipated growth under the Plan has the potential to conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production. Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the loss of forest land or conversion of forest land to non-forest use. Implementation of transportation projects and anticipated growth under the Plan would result in significant impacts with regards to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.
- **Air Quality:** At the regional level, criteria pollutant emissions would be mostly reduced compared to existing conditions and the region would meet air quality standards. In 2045, when compared to existing conditions, on-road mobile-source PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic. On-road mobile-source particulate matter emissions would remain the same or decrease from existing conditions in the other counties. Within the SCAB (which is likely indicative of the region as a whole), SCAQMD indicates that total pollutant emissions are being reduced through at least 2031, except for small increases in SO_x and PM_{2.5}. Individual project emissions may result in significant construction and/or operational emissions as compared to thresholds of significance identified by each air district which would result in a

cumulative impact. Over the lifetime of the Plan numerous transportation projects and land use development projects would be implemented. The construction of these projects could expose sensitive receptors to substantial pollutant concentrations.

- **Biological Resources:** Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would affect biological resources. Direct impacts that could occur during construction of some projects include direct loss of sensitive plant and/or wildlife species resulting from injury, death, or disturbance of these species. Direct impacts may also occur through direct habitat loss and fragmentation during construction, displacement of sensitive species due to construction noise or during operation, accidental introduction of non-native plants by construction equipment or during maintenance and general operation, introduction of new lighting sources, and dust and noise during construction and operation. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on riparian habitats and other sensitive natural communities. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a substantial adverse effect on wetlands. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would interfere substantially with the movement of native resident or migratory fish, or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites directly, as a result of habitat conversion to accommodate transportation projects and growth under the Plan, or indirectly through interruption of movement or migratory corridors caused by construction and operation of infrastructure for transportation projects and adjacent projects that may result from improved transportation access. Implementation of transportation projects as well as land use and transportation strategies identified in the Plan have the potential to conflict with local policies and ordinances related to biological resources. Implementation of transportation projects identified in the Plan and development projects anticipated to occur under the Plan would have a potential to result in conflicts with the provisions of applicable adopted HCPs and NCCPs because some planned major transportation projects and development projects may occur in or adjacent to lands protected under these plans, constituting a significant impact.
- **Cultural Resources:** The Plan has the potential to effect historical resources in the SCAG region, including sites listed in the NRHP. Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of archaeological resources in the SCAG Region, pursuant to *CEQA Guidelines* Section 15064.5, constituting a significant impact. The Plan includes transportation projects that have the potential to disturb human remains

interred outside of formal cemeteries or those interred in Native American sacred sites, constituting a significant impact.

- **Geology and Soils:** Implementation of transportation projects included in the Plan as well as growth under the Plan, particularly projects involving large-scale ground disturbance during construction such as grade separation projects, mixed flow lane projects, and rail projects may result in significant impacts from soil erosion or the loss of topsoil. The potential direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan, could result in substantial alteration or removal of a significant paleontological resource from construction activities, and is considered significant.
- **Greenhouse Gas Emissions:** Implementation of the Plan could conflict with CARB's 2017 Scoping Plan or any applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs. Furthermore, while GHG emissions are anticipated to decrease compared to existing conditions, they are not anticipated to be reduced sufficiently to meet the targets established for California.
- **Hazards and Hazardous Materials:** Implementation of the Plan would increase the risk of significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials as well as through reasonably foreseeable upset conditions. Transportation projects and land use strategies included in the Plan may increase the risk of emitting hazardous materials within one-quarter mile of a school. Furthermore, the Plan may cause transportation projects and development to be located on sites included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Plan would not in itself result in a safety hazard; however, increased population growth that would occur by 2045 would result in increased air traffic in major commercial airports in Southern California which could result in significant safety impacts. The Plan would result in significant impacts in regards to impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.
- **Hydrology and Water Quality:** Grading, excavation, and other construction activities associated with implementation of transportation projects and development projects anticipated to occur under the Plan, could impact water quality due to erosion resulting from exposed soils that may be transported in stormwater runoff. Given that most of the groundwater basins in the Plan area are already in a state of overdraft, future development may result in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). Implementation of transportation projects as well as anticipated development under the

Plan would occur within watersheds that have impaired water bodies. Many of the impaired water bodies are located near a freeway, transit, or rail projects included in the Plan. Several projects may impact water bodies by placing fill material within a stream channel. The Plan has the potential to change existing drainage patterns. Transportation projects such as lane widening projects, new highways, as well as bridges/tunnels, and transportation facilities projects that could cross existing creeks, water crossings, rivers or be expanded into wetland areas may impact water bodies by placing fill material within a stream channel. the Plan has the potential to alter existing drainage patterns. Implementation of the Plan's transportation projects as well as land use strategies may increase impervious surfaces, which in turn could increase urban runoff if not regulated, resulting in the transport of greater volumes of polluted water into storm drain systems. With regard to flooding, implementation of transportation projects and development projects anticipated to occur under the Plan built in low-lying areas or in proximity to waterways and/or dam inundation zones may be subject to flood hazards. An increase in impervious surfaces would increase water runoff and potentially affect groundwater recharge rates and water quality in the basins. Therefore, the Plan may conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan and mitigation measures are required.

- **Land Use:** Physical division of an established community could occur as a result of real or perceived barriers to pedestrians, bicyclists, and motorists. Short-term construction related impacts could result from disturbances due to construction equipment; these impacts are discussed under other impact categories (e.g., Noise, Aesthetics, and Air Quality). Long-term impacts could result from the completion of new or expanded roadways or transit facilities in existing communities. , since the Plan's planning horizon year is beyond the timeline of many of the most recent general plans, implementation of the Plan's transportation projects and land use strategies could potentially result in changes in the land use patterns in the region that may facilitate land use changes in some areas. Therefore, there is potential for inconsistencies with general plans as well as regional conservation plans.
- **Mineral Resources:** Transportation projects contained in the Plan and development projects anticipated to occur under the Plan would require substantial amounts of aggregate resources for construction purposes, constituting a significant impact. Transportation projects contained in the Plan and development projects anticipated to occur under the Plan have the potential to impact availability of mineral resources if they are constructed in mineral resource zones.
- **Noise:** Implementation of transportation projects and development projects anticipated to occur under the Plan would likely result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other

agencies, constituting a significant impact. Implementation of the transportation projects and the construction of land use development projects anticipated to occur under the Plan would generate varying levels of vibration and groundborne noise. Implementation of transportation projects and development anticipated to occur under the Plan may result in exposure of persons to or generation of significant noise levels from aircrafts and other airport activity (including ground transportation) constituting a significant impact.

- **Population and Housing:** Due to the Plan's land use strategies that focus on compact development, there is potential to induce growth in some areas of the region although overall the Plan accommodates anticipated growth rather than inducing growth. The construction of transportation projects that require expansion of existing or designation of new ROWs have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing, thereby constituting a potentially significant impact.
- **Public Services:** Implementation of Connect SoCal could affect the need for construction of new or physically altered fire protection and emergency response facilities in order to maintain acceptable service ratios. Although the location and size of such facilities is not yet known, impacts could occur, requiring the consideration of mitigation measures. The Plan could contribute to the need for construction of new or physically altered police facilities in order to maintain acceptable service ratios. The Plan could contribute to substantial adverse physical impacts associated with the construction and subsequent operation of new or physically altered school facilities in order to maintain acceptable service ratios. The Plan could contribute to substantial adverse physical impacts associated with the construction of library facilities in order to maintain acceptable service ratios.
- **Parks and Recreation:** Transportation projects and growth under the Plan would have the potential to increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration would occur, constituting a potentially significant impact.. Implementation of the Plan would result in additional linear recreation facilities, including a regional greenway network, a regional bikeway network, and local bikeway networks, the construction of which might have an adverse physical effect on the environment.
- **Transportation and Traffic:** The Plan could conflict with or be inconsistent with *CEQA Guidelines* section 15064.3(b). The Plan also has the potential to result in inadequate emergency access, or to substantially impair an adopted emergency response plan.
- **Tribal Cultural Resources:** Transportation projects and anticipated growth under the Plan have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the

SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.

- Utilities and Service Systems:** Many of the transportation projects within the Plan have the potential to generate a substantial amount of solid waste during construction through grading and excavation activities, as well as debris resulting from removal of structures, due to the volume of solid waste debris expected to be generated with implementation of the Plan and lack of identified landfill capacity, impacts would be significant. Implementation of some transportation projects and anticipated growth under the Plan would involve construction of new storm water drainage facilities and may require construction of new or expanded wastewater treatment facilities. Implementation of the Plan could result in a determination by one or more of the wastewater treatment providers in the region that there is inadequate capacity to serve the future population demand in addition to the provider's existing commitments, resulting in a significant impact. Implementation of the Plan, could require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. The Plan could result in insufficient water supplies from existing entitlements and resources resulting in significant impacts.
- Wildfire:** Transportation projects and anticipated development projects may be located in wildfire-prone areas which could potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly those populations living down wind of the fire. Development may continue to occur in urban/wildlands interface areas which would necessitate infrastructure such as power poles that could result in wildfire risk. Due to the anticipated increased consumption of greenfields under the Plan, development may continue to occur in urban/wildlands interface areas which would result in significant risks for people and structures

All other environmental impacts (project-specific and cumulative) are either less than significant or can be mitigated to a less than significant level.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(d) of the *State CEQA Guidelines* states that an EIR must include a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Specifically, Section 15126.2(d) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter

unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified

For purposes of this analysis, the Plan would result in significant irreversible environmental changes if it:

- involves a large commitment of nonrenewable resources that would commit future generations;
- results in irreversible damage from environmental accidents; or
- irretrievable commitments of nonrenewable resources to justify current consumption.

5.2.1 Large Commitment of Nonrenewable Resources that would commit future generations

The Plan would result in the irreversible consumption of nonrenewable resources. The irreversible commitment of limited resources is inherent in any development project or, in the case of the Plan, combined transportation and development projects. Resources anticipated to be irreversibly committed over the timespan of the construction activities related to the Plan include, but are not limited to, lumber and other related forest products; sand, gravel, and concrete; petrochemicals; construction materials; steel, copper, lead, and other metals; and water.

Growth and land use changes that would result from implementation of the Plan would likely commit future generations to those uses. Once established, land use patterns can be difficult to change and/or significantly influence without considerable political, social, and economic cost. The development pattern reflected in the Plan represents a commitment of these areas to those uses for the foreseeable future. The Plan emphasizes a compact land use pattern, the result is more efficient use of urban land as well as land at the urban edges or in undeveloped areas of the region. As a secondary result, per capita use of many nonrenewable resources decreases under this Plan. These include: lower per capita use of energy and fuels; less conversion of agricultural, open space, and habitat lands; lower per-capita emissions of air pollutants, including GHGs; resulting in slower climate change effects over time.

However, construction activities related to the proposed project would nevertheless result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobile and construction equipment and aggregate supply used in construction.

With respect to operation activities, compliance with all applicable building codes, as well as project mitigation measures or project requirements, would help ensure that natural resources are conserved or recycled as feasible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, that will further reduce the region's reliance upon nonrenewable natural resources; however, even with implementation of conservation measures consumption of natural resources would generally increase with implementation of the Plan.

Furthermore, growth generally results in long-term increase in the demand for electricity and natural gas supplies and distribution. However, the Plan and other federal and state energy efficiency standards will result in lower per-capita demand by encouraging development in urban areas; encouraging energy conservation in new construction and existing buildings; and reducing the infrastructure energy demands by encouraging alternative transportation such as bicycling, walking, and public transit. Furthermore, the Plan will result in lower per-capita VMT through the horizon year.

The region also has multiple nonrenewable resources including agricultural lands, open space, habitat areas, and mineral resources areas that contain aggregate, oil, and natural gas. Increased levels of development outside of already developed areas could result in permanent loss or other adverse impacts to these resource areas.

The Plan would result in the conversion of 41,546 acres of greenfield to urbanized uses, however, this area of potential impact is much smaller that would otherwise occur without regional efforts to encourage more compact growth. By increasing density in urban areas and decreasing the footprint of growth, pressures to convert agricultural and natural lands outside areas planned for growth are decreased.

5.2.2 Irreversible Damage from Environmental Accidents

Any growth in the region includes the potential for irreversible damage from environmental accidents. For example, greater densities expose more people in the same area to unexpected environmental events such as fire, flood, and/or earthquake which could lead to irreversible damage. In addition, irreversible changes to the physical environment could occur from the accidental release of hazardous materials associated with transport on roadways as more hazardous materials are transported through the region and more people are located in closer proximity to hazardous materials threats.

However, this exposure would exist under any growth scenario. Federal and state regulations require the Plan to accommodate expected growth in the region based on market-based forecasts. The SCS minimizes the footprint of that growth. Implementation of the Plan does not, in and of itself, result in greater potential of irreversible damage from an environmental accident.

5.2.3 Irretrievable Commitments of Nonrenewable Resources to Justify Current Consumption

The region has multiple nonrenewable resources including agricultural lands, open space, habitat areas, and mineral resources areas that contain aggregates and natural gas. Increased levels of development outside of already developed areas could result in permanent loss or other adverse impacts to these resource areas. In addition, increased levels of development throughout the region could result in greater use of nonrenewable resources during construction, including nonrenewable aggregates, or increased use of glass, plastic, and other petroleum products.

While approximately 41,546 acres of undeveloped land would be converted to urban land uses as a result of implementation of the Plan, this area of potential impact is much smaller than would otherwise occur without regional efforts to encourage more compact growth following “smart growth” principles and to direct as much growth as possible to existing developed areas. By increasing the density of development, and decreasing the footprint of growth, pressures to convert agricultural and open space lands outside areas planned for growth are decreased.

New growth generally results in additional demand for electricity, natural gas, and propane supplies and distribution. However, the Plan, and other federal and state efforts, will result in lower per-capita demand by encouraging compact development; encouraging energy conservation in new construction and existing buildings; and reducing the infrastructure energy demands by encouraging alternative transportation such as bicycling, walking, and public transit. Furthermore, the Plan will result in lower per-capita VMT through the horizon year (2045). **Section 3.8, Greenhouse Gas Emissions**, of the PEIR further addresses VMT.

Any growth in the region will result in significant irreversible resource commitments. In evaluating the significance of a project’s irreversible resource commitments, CEQA requires a lead agency to consider whether such commitments are “justified” (*CEQA Guidelines* Section 15126.2(c)). As discussed above, and consistent with the project objectives for the Plan (See **Chapter 2.0, Project Description**), the Plan is designed to minimize irreversible resource commitments, thus maximizing opportunities for future generations. While the Plan will result in irreversible resource commitments, by encouraging higher density, less-consumptive development, as compared to the environmental baseline and forecasted conditions, the commitments are justified and beneficial. Therefore, these commitments are considered less than significant.

5.3 GROWTH-INDUCING IMPACTS

Section 15126.2(e) of the *State CEQA Guidelines* requires that growth inducing impacts of a proposed project be considered. Growth inducing impacts are characteristics of a project that could directly or indirectly create economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or by encouraging and/or facilitating other activities that could induce growth. Examples of projects likely to have growth inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or office complexes in areas that are currently only sparsely developed or are undeveloped. In addition, as set forth in the *CEQA Guidelines*, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The *CEQA Guidelines* also state that it must not be assumed that growth in an area is necessarily beneficial, detrimental or of little significance to the environment. Induced growth is considered a significant impact only if it directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth significantly affects the environment, that is, that it would result in construction that would adversely affect the environment.

As discussed in **Section 3.14, Population and Housing**, the Plan includes transportation and land use strategies that guide new population growth within existing urbanized areas, HQTAs, underutilized urban areas, and existing suburban town centers. The Plan would strategically target growth near jobs and transit. However, the improved accessibility from the Plan's transportation projects and strategies could also facilitate population and economic growth in areas of the region that are currently not developed, despite policies designed to limit such development. It should be noted that the Plan would result in an overall increase in total VMT which would be expected due to the large increase in regional population, but the more efficient land use patterns and strategies included in the Plan would result in a decrease in per capita VMT compared to the No Project.

Because several variables influence growth, it is difficult to determine how the Plan alone would affect growth. As described in Chapter 3.0, the Plan would affect each environmental issue area directly through transportation projects and strategies and indirectly through land use and strategies that would create a more compact development pattern than if no Plan were in place. Factors that would potentially induce population growth include roads, highways, freeways, rail, and other transportation improvements that provide access to previously undeveloped areas. HOV projects would not be expected to induce growth as they are adding to an existing freeway instead of creating a new freeway. The availability of adequate water supplies, the availability of sewage treatment facilities, the availability of

developable land, the types and availability of employment opportunities, housing supply and costs, commuting distances, cultural and recreational amenities, climate, and local government growth policies contained in general plans and zoning ordinances would also induce population growth. These are contributing factors to consider when evaluating whether the Plan would, in and of itself, induce population growth, but are not necessarily an indication that the Plan is growth inducing.

As discussed above, total population is expected to remain the same with or without the Plan. Generally, the Plan accommodates growth in a manner substantially consistent with local general plans, regional values and visions, and state and federal laws. The Plan would provide greater access to more of the region than the No Project Alternative due to transportation projects and strategies; however, targeting growth in the HQTAs would limit the geographic spread of growth.. Therefore, in general, the Plan could influence and possibly induce growth into specific parts of the region (including areas that are partially urbanized already) by providing new or expanded access. Overall, the Plan would accommodate and facilitate growth in the region.

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7.0 GLOSSARY

AB	Assembly Bill
ACE	After the Common Era
ACEP	Agricultural Conservation Easement Program
ACGIH	American Conference of Governmental Industrial Hygienists
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Materials
ACWA	Association of California Water Agencies
af	Acre-Feet
AFV	Alternative Fuel Vehicle
afy	Acre-Feet per Year
AHPA	Archeological and Historic Preservation Act
AHSC	Affordable Housing & Sustainable Communities
AIRFA	American Indian Religious Freedom Act
AMR	Annual Monitoring Report
APG	Adaptation Planning Guide
AQMP	Air Quality Management Plan
APS	Alternative Planning Strategy
ATMP	Airborne Toxic Control Measures
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
ARPA	Archaeological Resources Protection Act
ARRA	American Recovery and Reinvestment Act of 2009
ASBS	Areas of Special Biological Significance
ATP	California Active Transportation Program
ATSA	Aviation and Transportation Security Act
AVEK	Antelope Valley East Kern Water Agency
BCE	Before the Common Era
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
BNSF	Burlington Northern/Santa Fe Railway

BP	Before Present
BRT	Bus Rapid Transit
BSER	Best System Of Emission Reduction
BTSP	Bicycle Transportation Strategic Plan
Btu	British Thermal Units
BUR	Bob Hope Airport
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Prevention
CalEMA	California Emergency Management Agency
CALGreen	Code California Green Building Standards Code Regulations
CalOES	Governor's Office of Emergency Services
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBSC	California Building Standards Code
CBSP	Commuter Bikeways Strategic Plan
CCA	California Coastal Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations
CDC	California Department of Conservation
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CE	Common Era
CEC	California Energy Commission
CELCP	Coastal and Estuarine Land Conservation Program

CEP	Community Engagement Panel
CEQA	California Environmental Quality Act
CERC	Clean Energy Research Center
CERCLA	Comprehensive Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFCP	California Farmland Conservancy Program
CFCs	Chlorofluorocarbons
CFS	Commodity Flow Survey
CGS	California Geological Survey
CH ₄	Methane
CHP	California Highway Patrol
CIP	Capital Improvement Program
CMA	Congestion Management Agency
CMP	Congestion Management Plan
CNDDDB	California Natural Diversity Database
CNEL	Community noise equivalent level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide-Equivalent
COG	Council of Governments
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSE	Countywide Siting Element
CSI	California Solar Initiative
CSI	Container Security Initiative
CTIP	Cargo Theft Interdiction Program
CTP	California Transportation Plan
C-TPAT	Customs-Trade Partnership Against Terrorism
CUP	Conditional Use Permit
CVAG	Coachella Valley Association of Governments

CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	Decibel
dba	A-Weighted Decibel
DBPs	Disinfection Byproducts
DDW	Division of Drinking Water
DFO	Disaster Field Office
DHS	United States Department of Homeland Security
DHS	Department of Homeland Security
DMA	Disaster Mitigation Act
DNL	Day-Night Average
DOD	United States Department of Defense
DOE	Department of Energy
DRECP	Desert Renewable Energy Conservation Plan
DSCA	Defense Support to Civilian Authorities
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
DWR	Department of Water Resources
EGU	Electric Generating Unit
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMA	California Emergency Management Agency
EMMA	Emergency Managers Mutual Aid
EPAct	Energy Policy Act
EPCA	Energy Policy and Conservation Act
EO	Executive Order
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EQIP	Environmental Quality Incentives Program
ESA	Endangered Species Acts
ESEA	Elementary and Secondary Education Act

EU-ETS	European Union Emission Trading Scheme
FAA	Federal Aviation Administration
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FFV	Flexible Fuel Vehicle
FHWA	Federal Highway Administration
FIR	Fiscal Impact Report
FLIGHT	Facility Level Information on Greenhouse gases Tool
FLPMA	Federal Land Policy and Management Act
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act of 1981
FRPP	Farm and Ranch Lands Protection Program
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
FUA	Fuel Use Act
FWCA	Fish and Wildlife Coordination Act
FY	Fiscal Year
GGRF	Greenhouse Gas Reduction Fund
GHG	Greenhouse gases
GHGRP	Greenhouse Gas Reporting Program
GIS	Geographic Information System
GRP	Gross Regional Product
GSA	General Services Agency
GVWR	Gross Vehicle Weight Rating
GWh	Gigawatt-Hour
GWP	Global Warming Potential
H ₂ SO ₄	Sulfuric Acid
HAPs	Hazardous Air Pollutants
HARP	Hot Spots Analysis and Reporting Program
HCD	Department of Housing and Community Development
HCFCs	Hydrochlorofluorocarbons
HCP	Habitat Conservation Plans
HFCs	Hydrofluorocarbons

HMTA	Hazardous Materials Transportation Act
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HPD	California Division of Housing Policy Development
HQTA	High Quality Transit Areas
HRA	Health Risk Assessment
HSA	Historic Sites Act
HSL	High Speed Rail
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
Hz	Hertz
I-5	Interstate 5
IARC	International Agency for Research on Cancer
ICS	Incident Command System
ICTC	Imperial County Transportation Commission
In/sec	Inches per Second
IOUs	Investor-Owned Utilities
IPA	Imperial County Airport
IRWMP	Integrated Regional Water Management Plan
ISO	Independent System Operator
ISPS	International Ship and Port Facility Security Code
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITS	Intelligent Transportation System
IWM	Integrated Water Management
kW	Kilowatts
kWh	Kilowatt-Hour
LACFD	Los Angeles County Fire Department
LADWP	Los Angeles Department of Water and Power
LAMP	Local Agency Management Program
LAX	Los Angeles International Airport
LCP	Local Coastal Programs
Ldn	Day-Night Equivalent Level
LED	Light Emitting Diode

Leq	Equivalent sound level
LEV	Low Emission Vehicle
LGB	Long Beach Airport
Lmax	Maximum Sound Levels
Lmin	Minimum Sound Level
LN	Noise Level
LOS	Level of Service
LOSSAN	Los Angeles–San Diego–San Luis Obispo
LRID	Little Rock Irrigation District
LRT	Light Rail Transit
LTRR	Long-Term Regional Recovery
LUST	Leaking Underground Storage Tank
MAA	Mutual Aid Agreements
MACT	Maximum Achievable Control Technology
MAP	Million Annual Passengers
MAP-21	Moving Ahead for Progress in the 21st Century
MBTA	Migratory Bird Treaty Act of 1918
MCL	Maximum Contaminant Level
MDAB	Mojave Desert Air Basin
Metro	Los Angeles County Metropolitan Transportation Authority
µg/m ³	Micrograms per Cubic Meter
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MMRT	Million Metric Revenue Tons
MMTCO _{2e}	Million Metric Tons of CO _{2e}
MOUs	Memoranda of Understanding
mpg	Miles per Gallon
MPOs	Metropolitan Planning Organizations
MPRSA	Marine Protection, Research, and Sanctuaries Act of 1972
MRZs	Mineral Resource Zones
MSAT	Mobile Source Air Toxics
MSDS	Material Safety Data Sheets
MTBE	Methyl Tertiary Butyl Ether and Tertiary Butanol

MTCO _{2e}	Metric Ton of CO _{2e}
MWA	Mojave Water Agency
MWD	Metropolitan Water District
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NCCP	Natural Community Conservation Plan
NCLB	No Child Left Behind
NEA	National Energy Act of 1978
NEPA	National Environmental Policy Act
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NGOs	Nongovernmental Organizations
NHL	National Historic Landmarks
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NO ₂	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NPL	National Priorities List
NPS	National Preparedness System
NRCS	Natural Resources Conservation Service
NRF	National Response Framework
NRHP	National Register of Historic Places
NRPA	National Recreation and Parks Association
NSPS	New Source Performance Standards
NSR	New Source Review
O ₃	Ozone

OBD	Onboard Diagnostic System
OCTA	Orange County Transportation Authority
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OES	County Offices of Emergency Services
OHP	Office of Historic Preservation
ONT	Ontario International Airport
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OSPR	Office of Oil Spill Prevention and Response
OWTS	Onsite Wastewater Treatment Systems
Pb	Lead
PCBs	Polychlorinated Biphenyls
PCH	Pacific Coast Highway
PEIR	Program Environmental Impact Report
PEV	Plug-In Electric Vehicle
PFC	Perfluorocarbon
PGF	Planning Growth Forecast
PHEV	Plug in Electric Hybrids
PLACE	Policies for Livable, Active Communities and Environments
PM	Particulate Matter
PM10	Particulate Matter 10 Microns or Less in Diameter
PM2.5	Particulate Matter 2.5 Microns or Less in Diameter
PMD	Palmdale Regional Airport
POEs	Ports of Entry
POTWs	Publicly Owned Treatment Works
POUs	Publicly Owned Utilities
ppd	Pounds per Day
PPD-8	Presidential Policy Directive 8: National Preparedness
ppm	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resource Code
PRPs	Potentially Responsible Parties

PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
PSP	Palm Springs International Airport
PURPA	Public Utility Regulatory Policies Act
PVC	Polymer Polyvinyl Chloride
PWD	Palmdale Water District
Qfs	Qualifying Facilities
RCIP	Riverside County Integrated Project
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
REOC	Regional Emergency Operations Center
RFC	Reference Concentration
RFS	Renewable Fuel Standard
RGGI	Regional Greenhouse Gas Initiative
RHNA	Regional Housing Needs Assessment
RNG	Renewable Natural Gas
ROGs	Reactive Organic Gases
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RRCC	Regional Response Coordination Center
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RTR	Risk and Technology Review
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users
SANBAG	San Bernardino Associated Governments
SARA	Superfund Amendment and Reauthorization Act
SB	Senate Bill
SBE	State Board of Education
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

SCCAB	South Central Coast Air Basin
SCE	Southern California Edison
SCPPA	Southern California Public Power Authority
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SDG&E	San Diego Gas & Electric Company
SDWA	Safe Drinking Water Act
SEAs	Significant Ecological Areas
SEATAC	Significant Ecological Areas Technical Advisory Committee
SEMS	Standard Emergency Management System
SF6	Sulfur Hexafluoride
SGC	Strategic Growth Council
SHMP	State Hazard Mitigation Plan
SHPO	State Historic Preservation Officer
SHRC	State Historical Resources Commission
SIO	Scenic Integrity Objective
SIPs	State Implementation Plans
SMARA	Surface Mining and Reclamation Act
SNA	John Wayne Airport
SO ₂	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SONGS	San Onofre Nuclear Generating Station
SO _x	Sulfates
SPCC	Spill Prevention Control and Countermeasure
SPM	Scenario Planning Model
SR-14	State Route 14
SSAB	Salton Sea Air Basin
SSC	Species of Special Concern
SSEMS	Statewide Standardized Emergency Management System
SSPP	System Safety Program Plan
SUSMP	Standard Urban Stormwater Management Plan
SWMP	Storm Water Management Plan
SWP	State Water Project

SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TAP	Transit Access Pass
TBACT	Toxics Best Available Control Technology
TCMs	Transportation Control Measures
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TEUs	Twenty-Foot Equivalent Units
TMCs	Transportation Management Centers
TMDL	Total Maximum Daily Loads
TOC	Total Organic Carbon
TPAs	Transit Priority Areas
tpd	Tons per Day
TSA	Transportation Security Administration
TSM	Transportation System Management
U.S. DOT	U.S. Department of Transportation
UBC	Uniform Building Code
UCG	Unified Coordination Group
UNFCCC	United Nations Framework Convention on Climate Change
UP	Union Pacific Railroad
URA	Federal Uniform Act
USACOE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	United States Department of Agriculture
USFS	U.S. Forest Service
USFWS	United States Fish and Wildlife Services
USGS	U.S. Geological Survey
USTs	Underground Storage Tanks
UWMPA	Urban Water Management Planning Act
UWMPs	Urban Water Management Plans
VCP	Voluntary Cleanup Program
VCTC	Ventura County Transportation Commission

VCV	Southern California Logistics Airport
VHD	Vehicle Hours of Delay
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds
WDRs	Waste Discharge Requirements
WRCOG	Western Riverside Council of Governments
WRE	Wetlands Reserve Easement
WSRA	Wild and Scenic Rivers Act of 1968
ZEV	Zero-Emission Vehicle

8.0 INTRODUCTION

This document provides chapters to be added to the Draft Program Environmental Impact Report (PEIR) to comprise the Final PEIR for Connect SoCal, also known as the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy (“Plan” or “Project”). This document, together with the Draft PEIR and its technical appendices, comprise the Final PEIR. The document has been prepared by the Southern California Association of Governments (SCAG) in accordance with the California Environmental Quality Act (CEQA).

In accordance with *CEQA Guidelines* Section 15132, the Final PEIR consists of the following:

- (a) The Draft PEIR or a revision of the draft;
- (b) Comments and recommendations received on the Draft PEIR either verbatim or in summary;
- (c) A list of persons, organizations, and public agencies commenting on the Draft PEIR;
- (d) SCAG’s responses to significant environmental points raised in the review and consultation process; and
- (e) Any other information added by SCAG (including minor changes to the PEIR).

A Mitigation Monitoring and Reporting Program is also required, and will be a separate document that must be adopted by SCAG upon certification of the PEIR, pursuant to Public Resources Code Section 21081.6 and *CEQA Guidelines* Section 15097.

The evaluation and response to comments are important elements to the CEQA process, as they allow the following: (1) the opportunity to review and comment on the methods of analysis contained within the Draft PEIR; (2) the ability to detect any omissions which may have occurred during preparation of the Draft PEIR; (3) the ability to check for accuracy of the analysis contained within the Draft PEIR; (4) the ability to share expertise; (5) the ability to discover public concerns.

This document provides revisions to the Draft PEIR made in response to comments, staff review, and/or changes to the proposed project. These revisions also correct, clarify, and amplify the text of the Draft PEIR, as appropriate, and do not alter the conclusions of the Draft PEIR.

8.1 CEQA PROCESS

Notice of Preparation and Public Scoping

A Notice of Preparation (NOP) for this PEIR was issued on January 23, 2019, by SCAG for a 30-day public review period. Two scoping meetings were held on February 13, 2019, at 3:00 pm to 5:00 pm, and at 6:30 pm to 8:00 pm. The meetings were convened in SCAG's main office in Los Angeles, with videoconferencing available at SCAG regional offices in Imperial, Orange, Riverside, and San Bernardino Counties. Videoconferencing was made available at two additional locations in the Cities of Palm Desert (Coachella Valley Association of Governments) and Palmdale. The purpose of these meetings was to provide early consultation for the public to express concerns about the project, acquire information, and make recommendations on issues to be addressed in the PEIR.

The NOP was sent to the State Clearinghouse on January 23, 2019; posted with the County Clerks for the six counties in the SCAG region; and distributed to various federal, state, regional and local government agencies, and other interested agencies, organizations, and individuals. The NOP was made available on SCAG's website at <https://www.connectso-cal.org/Documents/PEIR/NOP-PEIR-ConnectSoCal.pdf>. The NOP was published in 12 newspapers, including the Los Angeles Times, and additional newspapers that address the large geographic reach and diverse population within the SCAG region.

SCAG also conducted 28 open house workshops on the Plan between June and July 2019. The goals of these events were to share the purpose of Connect SoCal, introduce and provide information on policies and strategies under consideration, describe the performance outcomes of the different policy choices, and receive input from participants.

Notice of Availability of the Draft PEIR

The Draft PEIR was submitted to the State Clearinghouse Office of Planning and Research and circulated for public review beginning on December 9, 2019, and ending on January 24, 2020 (SCH # 20199011061), and a Notice of Completion was posted with each of the County Clerks for the six counties in the SCAG region. The PEIR was circulated primarily using electronic mail to more than 2,700 interested parties. The PEIR was mailed directly to approximately 200 interested parties, including federal, state, regional and local agencies, organizations, and major libraries in the region using the U.S. Postal Service certified mail service. Additionally, SCAG placed copies of the Draft PEIR at the offices of SCAG and electronic copies at the 56 public libraries throughout the region and posted the Draft PEIR on its website.

The PEIR was available at the following SCAG Regional Office locations:

SCAG Main Office
900 Wilshire Boulevard, Suite 1700,
Los Angeles, CA 90017

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501

SCAG Imperial County Regional Office
1405 N. Imperial Avenue, Suite 1
El Centro, CA 92243

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

SCAG Orange County Regional Office
600 South Main Street, Suite 906
Orange, CA 92868

A public workshop was held on January 9, 2020, from 2:00 pm to 3:30 pm at SCAG's Los Angeles Office located at 900 Wilshire Blvd., Ste 1700. This workshop was also a webinar which was available for the public via internet.

Responses to Comments on the Draft PEIR

CEQA Guidelines Section 15088 requires SCAG to evaluate comments on significant environmental issues received from parties that have reviewed the Draft PEIR and to prepare a written response. As stated in *CEQA Guidelines* Sections 15132 and 15362, the Final PEIR must contain the comments received on the Draft PEIR, either verbatim or in summary, a list of persons commenting, and the response of the Lead Agency to the comments received.

A total of 53 comment letters were received by SCAG during the comment period. Among the 53 comment letters, there were 262 unique comments directly related to the Draft PEIR.¹ The responses do not significantly alter the Project, change the Draft PEIR's significance conclusions, or provide new information regarding substantial adverse environmental effects not already analyzed in the Draft PEIR. Instead, the information presented in the responses to comments "merely clarifies or amplifies or makes insignificant modifications" in the Draft PEIR, as is permitted by *CEQA Guidelines* Section 15088.5(b).

In the course of responding to comments, certain portions of the Draft PEIR have been modified slightly for further clarification. The comments and modifications have not identified the existence of: (1) a significant new environmental impact that would result from the Project or an adopted mitigation measure; (2) a substantial increase in the severity of an environmental impact; (3) a feasible project alternative or mitigation measure not adopted that is considerably different from others analyzed in the Draft PEIR that would clearly lessen the significant environmental impacts of the Project; or (4)

¹ SCAG received a total 327 comments, 66 of which were considered redundant (i.e., cross-referencing comments from other local jurisdictions or agencies). A complete list and copy of comments are provided in the Final PEIR.

information that indicates the public was deprived of a meaningful opportunity to review and comment on the Draft PEIR (*CEQA Guidelines*, subdivision 15088.5(a). Consequently, SCAG finds the clarifications made to the Draft EIR in the Final EIR do not collectively or individually constitute significant new information within the meaning of PRC, section 21092.1 and *CEQA Guidelines*, section 15088.5. Recirculation of the Draft PEIR or any portion thereof, is, therefore, not required.

The written responses to commenting public agencies shall be provided at least ten (10) days prior to the certification of the Draft PEIR (*CEQA Guidelines* § 15088(b)). SCAG provided the Final PEIR to commenters on **March 27, 2020**, and made the document available for review on the Project web site at: <https://www.connectsocial.org/Pages/Final-2020-PEIR.aspx>

Final PEIR Certification and Approval

Prior to considering the Project for approval, SCAG, as the Lead Agency, will review and consider if the information presented in the Final PEIR:

- (a) Has been completed in compliance with CEQA;
- (b) Has been presented to the SCAG Regional Council as the decision-making body for the Lead Agency, which reviewed and considered it prior to approving the Project; and
- (c) Reflects SCAG's independent judgment and analysis (CEQA Guidelines Section 15090)

If and when the Final PEIR is certified, the SCAG Regional Council may proceed to consider Plan approval (CEQA Guidelines § 15090). Prior to approving the Project, SCAG must make written findings and adopt statements of overriding considerations for each unmitigated significant environmental effect identified in the Final PEIR in accordance with Sections 15091 and 15093 of the CEQA Guidelines.

If the Final PEIR is certified followed by the Plan approval, SCAG will file a Notice of Determination (NOD) with the Office of Planning and Research and the County Clerks of Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial (CEQA Guidelines § 15094).

8.2 REFINEMENTS TO THE PLAN SINCE PUBLICATION OF THE DRAFT PEIR

Modifications to the Draft Connect SoCal Project List

The Draft Connect SoCal Project List has been refined/updated since the publication of the Draft Plan and Draft PEIR. Generally, changes to the project list are one of the following:

- New projects that were not included in the Connect SoCal Project list.

- Existing projects in the Connect SoCal Project list that were requested to be removed.
- Existing projects in the Connect SoCal Project list that have:
 - a revised description (including completion year, cost or minor change to scope), and/or
 - a revised schedule.

SCAG received input on the Draft Project List from six County Transportation Commissions (CTCs) as part of the Connect SoCal update and finalization process. During the comment period for the Draft Plan, input was received from the six CTC's regarding modifications to the Final Project List. The provided updates reflect the latest Connect SoCal project information at the time and are part of the finalization process by SCAG and the CTCs for the Final Connect SoCal Project List. Connect SoCal includes over 4,000 individual capital projects and programs across the region across all modes of transportation over the next 25 years. During the public review period, SCAG received requests from the county transportation commissions to modify more than 170 projects (which represents less than 1 percent of total projects). Projects removed were due to duplicative entries. Notable projects that were removed between the Draft and Final Connect SoCal are as follows:

- 1TR103 – California High-Speed Rail Phase 1 (Duplicative)
- 1H0101 – Add 1 HOV lane SR-14
- 4M0714 – I-15 Mohave Interchange
- LA0G1099 – High Desert Corridor (Duplicative)
- LA0G901- Historic LA Streetcar

New projects that were added between the Draft and Final Connect SoCal are as follows:

- 1200P005 – Terminal Access Improvement on Harbor Scenic Drive
- 2200G001 – BNSF Line
- 200T004 – Replacement of 40 Buses
- 3200L300 – Railroad Crossing Safety Improvements
- 3200P200 – Metrolink low/zero emission technology trains
- 4A07004 – Widen US-395 from I-15 to SR 18 (Palmdale Rd)
- ORA120507 – Widen Route 74 (Ortega Highway)

Accordingly, SCAG re-ran the travel demand and emission model with the updated transportation network. The plan outcome from these revisions resulted in incremental improvement in VMT, delay and economic metrics which are discussed under the changes to Performance Measures section of the Final Connect SoCal Plan.

Improvements to Performance Outcome

Comments were received from the California Air Resources Board (ARB) on performance outcomes and the GHG target analysis. In response, SCAG added data for the years 2020 and 2035 for the VMT per capita performance measure to better align with state GHG reduction target years in the main book as well as Performance Measures Technical Report. In addition, final modeling data results from both the SCAG Regional Travel Demand Model and the Scenario Planning Model offered improved performance in some significant areas of Connect SoCal, including VMT per capita (5.0% reduction from 4.2%) and daily delay per capita (25.7% reduction from 22.4%). Several of the economic opportunity indicators also were improved by the final model runs, with the benefit/cost ratio for Connect SoCal investments increasing from 1.54 to 2.06, and the annual number of new jobs generated by improved regional economic competitiveness increasing from 195,500 to 264,500.

Adjustments to the Sustainable Communities Strategy (SCS)

SCAG received many comments related to the SCS. Several comments raised concerns regarding housing affordability, climate change and certain GHG reduction strategies. Other comments sought clarity on the Connect SoCal Growth Vision. In response to comments, the Sustainable Communities Strategy has updated SCAG's Growth Vision and modified land use patterns in the Sustainable Communities Strategy, which resulted in adjustments to HQTAs in the region.

SCAG used the performance of each scenario as well as input gathered through the public workshops to refine the final growth vision for the Plan. This vision aims to increase mobility options and reduce the need for residents to drive by locating housing, jobs, and transit closer together. The final Plan focuses growth within jurisdictions near destinations and mobility options and promotes an improved jobs-housing balance to reduce commute times.

SCAG revised forecasted development pattern, by initiating a peer review with local jurisdictions regarding population, household, and employment growth at the sub-jurisdictional level (i.e. transportation analysis zone (TAZ) level) prior to the release of the draft Connect SoCal plan. Technical refinements were made to the Forecasted Development Pattern in Connect SoCal that included adjustments to growth due to entitlements and maximum planned capacities. "Locally envisioned

growth” was used in some instances to further Connect SoCal’s Growth Vision of reducing the need for residents to drive by locating housing, jobs and transit closer together - helping to assure that Connect SoCal’s land use and growth strategies recognize local input, promote sustainable transportation options, and support equitable and adaptable communities.

The revised forecasted development pattern directs growth to Priority Growth Areas (PGAs) near existing and planned transit, within existing job centers, in communities with existing and planned infrastructure to support more walkability and use of alternative transportation modes, and in areas identified for jurisdictional expansion (i.e. spheres of influence). The final growth vision includes entitled projects, reflects the local input growth totals and follows currently adopted local plans to allocate growth within the existing general plan maximums. Growth through 2045 was reduced in and redirected from constrained areas (e.g. very high severity fire risk areas, farmland, protected open space, wildlife corridors, areas at risk for near-term sea level rise, flood hazard areas, etc.). No changes were made to the underlying policies or strategies presented in the Draft Connect SoCal which would constitute a major change in the Project Description.

Modifications to Transportation Finance

The Connect SoCal proposes investment of approximately \$639 billion to maintain, operate and improve the region’s multimodal transportation system through 2045. Approximately \$500 billion is expected to be available through existing funding sources projected out to 2045. The balance of almost \$139 billion is expected to be available through implementation of innovative funding sources proposed in the Connect SoCal, which will require significant actions at the local, regional, state and federal level in the coming decade through collaborative efforts.

Many comments were focused on clarifying details on the financial model, implementation guidelines for new revenue sources and need for more evaluation, including assurances on distribution of funds and consideration of impacts of fees on different segments of the population. In response to comments, text clarifications were made regarding assumptions for the financial model and guidelines for implementation of new revenue sources. Modifications to transportation finance does not affect the environmental analysis as it serves to provide the reader background information on funding sources rather than information on physical changes to the environment.

Clarifications on Transportation Conformity

On the Transportation Conformity Analysis Technical Report, in response to comments, a new challenge titled “Meeting Federal Air Quality Standards” has been added to Chapter 2 of the Connect SoCal Plan to

highlight the challenge for the South Coast region to meet federal air quality standards by the near-term statutory deadline, its potential impacts, and the need for a comprehensive and coordinated regional solution. In the interim, U.S. EPA recently allowed for the use of emissions adjustment factors proposed by ARB for EMFAC 2014 (which is the emissions model used by SCAG to demonstrate transportation conformity of the Draft Connect SoCal prior to issuance of SAFE Rules by U.S. EPA) to comply with SAFE Rule Part 1 for transportation conformity determination in California. The Final Plan uses adjusted factors with respect to air quality emissions and meets the required conformity tests pursuant to the proposed adjustment factors for the EMFAC 2014.

8.3 EFFECTS OF THE REFINEMENTS TO THE PLAN

The SCAG models described above are used to provide gross estimates of regional environmental parameters (in particular VMT, criteria pollutant emissions and GHG emissions). However, the inputs to these models are subject to variability (location and density of land uses, travel patterns, fuel make up, pricing assumptions and many more). Because of this, minor changes to assumptions result in minor changes to modeling results and are not statistically significant. As noted above, SCAG has made several refinements to Connect SoCal including to land use patterns, transportation projects and policies (alternatives would be similarly affected). None of these refinements result in substantial changes to the information presented in the Draft PEIR, including modeling results. Nonetheless, below is a summary description of each topic area analyzed within the PEIR and how the changes described above would change.

Aesthetics and Views

As described above, the Final Plan includes generally the same transportation network as the Draft Plan (with the exceptions noted above), and therefore would have similar regional impacts on aesthetics and views. The Final Plan refines the focus of growth within jurisdictions near destinations and mobility options and promote an improved jobs-housing balance to reduce commute times, the potential for scenic resources conflicts are generally within rural and minimally developed areas. As such, the regional impacts would be similar to and within the range of impacts already analyzed in the Draft PEIR.

Regional-scale impacts to scenic resource and vista points would be the same under the Final Plan as with the Draft Plan. None of the analysis presented in Section 3.1 would be changed as a result of the refinements to the Plan. At the regional level, impacts would remain significant and unavoidable. The minor modifications to the Plan would have no impact on cumulative Aesthetic impacts at the regional level because the changes are minor and at the sub jurisdictional level.

Agriculture and Forestry

Based on the refinements to the Plan, the Estimated Maximum Direct Potential Loss of Important Agricultural Land as shown in Table 3.2-4 could change slightly, but at the regional scale such impacts would be negligible.

Air Quality

Region-wide criteria pollutant emissions under the Final Plan would generally go down due to the better performance of the Plan overall. The revisions reflected in the Final Plan would not change the conclusions presented in the Draft PEIR. The Final Plan air quality modeling addresses both the refinements to the Plan and ARB's EMFAC2014 off-model adjustment factors² necessary to account for the emission impacts of The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program effective November 26, 2019 (the rollback of California's waiver).³ The numbers represent a conservative scenario, if the California waiver is not rolled back, emissions would be similar to or better than the results presented in the Final Plan. Even using the conservative assumptions, the calculated emissions would not be substantially different from those presented in the Draft PEIR. These minor changes would not affect the findings of the PEIR, and overall impacts related to criteria pollutants would remain significant and unavoidable.

Biological Resources

The transportation network for the Final Plan would be similar to the network in the Draft Plan, therefore the regional-scale direct impacts of the Final Plan to biological resources would be the same as those identified in the Draft PEIR. The impacts to natural vegetation, sensitive species and communities, habitat connectivity, and riparian and wetland areas, would also be the same. The acres of critical habitat would be similar to the amount impacted in Tables 3.4-13, Acres of Critical Habitat for Listed Species Potentially Affected by Connect SoCal Major Transportation Projects. The number of listed plant species and wildlife species affected by the final Plan would be similar to those provided in Table 3.4-14 Records of Listed Plant Species within 500 Feet of Connect SoCal Projects and Table 3.4-15 Records of Listed Wildlife Species within 500 Feet of Connect SoCal Projects. Similarly, acres of sensitive and riparian habitat within 500 feet of Connect SoCal projects (Table 3.4-16) would not substantively change based on the modifications described above. Miles of blueline streams and acres of federally protected waterways within 500 feet of Connect SoCal Projects would also not substantively change (Table 3.4-17, Table 3.4-18,

² https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

³ <https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf>

and Table 3.4-19). Lastly acres used for wildlife movement (Table 3.4-20) would be minimally affected by the changes in the Final Plan. The changes in the Final Plan would not impact acres subject to HCP or NCPs.

Cultural Resources

The Final Plan would have a similar transportation network as compared to the Draft Plan, therefore, regional-scale direct impacts to cultural resources, including impacts to historical and archaeological, resources would be similar to those identified in the Draft PEIR. The Plan would continue to include regional land use and transportation strategies that focus new growth in urbanized areas. Many urbanized areas are older urban or suburban town centers where structures of architectural or historical significance are likely to be located. Therefore, regional-scale impacts would not change. Transportation projects considered in the Plan would continue to have the potential to impact the nearly 100,000 archaeological resources in the SCAG region (Table 3.5-1). The Plan would continue to focus growth in urban areas and impacts would not substantively change.

Energy

The changes to the Final Plan would result in minor changes to the energy numbers presented in the Section 3.6, Energy. These estimates of energy consumption are based on available consumption factors which are reasonably expected to change substantially over the coming years with increased focus on conservation and efficiency. The minor changes reflected in the Final Plan would not substantially affect the numbers presented in the Final PEIR.

Geology and Soils

Direct regional-scale impacts to geological resources in the Final Plan would be similar to those of the Draft Plan. Implementation of the Plan would result in projects exposed to both direct and indirect effects of seismic activities compared to existing conditions (which is not an impact under CEQA). The Plan would neither cause nor exacerbate existing geologic hazards, including the likelihood of fault rupture. This condition exists throughout the SCAG region as it is a seismically active area.

Regarding impacts related to soil suitability, erosion and stability, because projects would be required to comply with existing state and local jurisdiction permitting, regulatory, and grading processes as well as the application of BMPs, regional-scale impacts would be the same as identified in the Draft PEIR.

The potential regional-scale direct impacts on paleontological resources related to implementation of transportation projects and development projects anticipated to occur under the Plan and presented in the Draft PEIR would not change as a result of on the Plan refinements.

Greenhouse Gases

The Plan refinements and adjustments described above would result in minimal changes to the regional-scale GHG emission estimates presented in the Draft PEIR. Table 3.8-5, Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region (Million Metric Tons per Year), CO₂ would be reduced slightly for light and medium-duty vehicles and heavy-duty vehicles. Similarly, total transportation section emissions would be slightly lower (Table 3.8-7). Overall, on-road-only emission would decrease based on the Final Plan. The Plan would continue to achieve GHG reduction targets of 8 and 19 percent (Table 3.8-10). For Table 3.8-11, Residents and VMT (2019 and 2045), the reduction in VMT per capita would be 8.4 percent for light duty vehicles and 4.8 percent for all vehicles. This is similar to numbers presented in the Draft Plan. As stated in Section 3.8, Greenhouse Gases, CARB has indicated that even if all MPOs meet their regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32, and the Scoping Plan. As recognized by CARB, MPO's do not have land use authority to implement additional VMT reductions. Furthermore, SCAG has no control or authority over the other key sectors (e.g., energy, industry, water, waste and agriculture) in meeting the AB 32, SB 32, and Scoping Plan targets. Assuming existing available emission factors, GHG emissions in the SCAG region are not on track to achieve targets identified in AB 32, SB 32 and the Scoping Plan. This would continue to be the case with the Final Plan.

Hazardous Materials

The Final Plan includes the same land use strategies that encourage infill and redevelopment and generally the same transportation network; therefore, transportation of hazardous materials would be similar to those described in the Draft PEIR. Regional-scale impacts related to the routine transport, use, or disposal of hazardous materials, the risk of upset of hazardous materials, risk of disturbing contaminated sites during construction, and the risk of release of hazardous materials within one-quarter mile of a school would not change from what is described in the Draft PEIR.

Hydrology and Water Quality

The Final Plan would have generally the same transportation projects and land use strategies as the Draft Plan, and as such, hydrology impacts including violation of water quality standards, potential to decrease groundwater supplies, alternation of an existing drainage pattern, and flood hazards would generally be

the same. While Plan refinements would result in an incremental increase in the amount greenfields converted to urban uses, at the regional level the impacts would not substantively change from what is described in the Draft PEIR.

Land Use

The transportation strategies in the Plan, such as emphasis on complete streets and TDM strategies would continue to have limited potential for dividing established communities because they are generally expected to occur in established communities. Many of these strategies (i.e., bike lanes, pedestrian access) improve connectivity. As land gets converted from urban or agricultural uses, there would continue to be the potential for infrastructure or land developments to divide existing communities. This impact would not substantially change with the refinements to the Plan described above.

With regard to conflict with existing plans, land use policies and strategies in the Plan would continue to encourage development of underutilized areas (infill, etc.). Development patterns, would continue to be supported by transportation investments that emphasize system preservation and enhancement, active transportation, and land use integration, and are generally consistent with local land use plans, goals, and policies calling for higher density, compact, mixed-use development that may be served by high-quality transit, bicycle and pedestrian improvements. There would continue to be the potential for inconsistencies between SCAG's land use strategies and local planning documents that could potentially lead to physical environmental impacts. The refinements to the Plan would not substantively change the analysis presented in the PEIR.

Mineral Resource

Change to transportation projects contained in the Plan and refinements to growth patterns would continue to require substantial amounts of aggregate resources for construction purposes, continuing to constitute a significant impact. The refinements to the Plan would not substantively change the analysis presented in the PEIR.

Noise

The Final Plan includes similar transportation projects and strategies as well as land use strategies as the Draft Plan. As a result, the Final Plan would have similar noise impacts as the Draft Plan. The potential for generation of substantial temporary or permanent increases in ambient noise or vibration would be similar to the Draft Plan, since the Final Plan would have generally the same transportation projects as the Draft Plan. The growth pattern is also similar to the Draft Plan meaning that generally the same

impacts would occur and for a regional scale analysis, the Plan refinements would not substantively change the analysis.

Regarding aviation noise, the Final Plan would have a similar transportation network and growth pattern as the Draft Plan, as a result, it is expected that sensitive receptors would continue to be impacted by airport noise and as for the draft Plan, the Final Plan would not exacerbate this impact.

Population and Housing

Minor modifications were made to the population, households and employment numbers. Some of the numbers were revised due to rounding and other refinements during the public review process. The analysis of impacts focuses on the Plan's potential to result in unplanned population growth. The Final Plan continues to include land use strategies and transportation projects and supporting strategies that generally encourage population growth in urbanized areas and HQTAs. Generally, most jurisdictions have started planning for increases in density in urban areas and the Plan builds on local input (and is not intended to result in re-designation of areas where such re-designation is not approved by the local agency). There continues to be the potential for the Plan's strategies to influence population growth in areas where local general plans have not yet been updated to reflect such growth.

Regarding potential to displace housing, construction of transportation projects that require expansion of existing or designation of new ROWs would continue to have the potential to result in the displacement of existing people and housing, necessitating the construction of replacement housing. The Final Plan continues to include generally the same transportation network and growth pattern, as such impacts would remain the same.

Public Services (Fire, Police, Schools, Libraries)

As described in Sections 3.15-1, 3.15-2, 3.15-3 and 3.15-4, impacts to public services are largely population driven. As described under the preceding section (Population and Housing), only minor refinements to the population forecasts occurred. The analysis presented in the public services sections is regional in nature and generally discusses the potential for impacts to occur as a result of the increased population. As the population numbers have not substantively changed, the analysis presented in Sections 3.15-1, 3.15-2, 3.15-3 and 3.15-4 remains the same.

Parks and Recreation

As described in Sections 3.16, impacts to parks and recreational facilities are largely population driven. As described under the preceding section (Population and Housing), only minor refinements to the population forecasts occurred. The analysis presented in the parks and recreation section is regional in nature and generally discusses the potential for impacts to occur as a result of the increased population resulting in overuse of existing parks, primarily in urban areas. As the population numbers have not substantively changed, the analysis presented in Section 3.16 remains the same.

Transportation

As described above, the refinements to the Plan have generally resulted in incrementally better Plan performance. These changes are fully described in the Plan. These minor changes do not substantively change the analysis presented in the PEIR.

Tribal Cultural Resources

Transportation projects and anticipated growth under the Plan would continue to have the potential to cause a substantial adverse change in the significance of tribal cultural resources in the SCAG region, defined in Public Resources Code section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. The Final Plan would have a similar transportation network and growth pattern as the Draft Plan. Therefore, the impacts would be the same as in the PEIR.

Utilities and Service Systems

As described in Sections 3.19-1, 3.19-2, and 3.19-3, impacts to utilities and service systems are largely population driven. As described under the preceding section (Population and Housing), only minor refinements to the population forecasts occurred. The analysis presented in the utilities and service systems sections is regional in nature and generally discusses the potential for physical impacts to occur as a result of the increased population. As the population numbers have not substantively changed, the analysis presented in Sections 3.19-1, 3.19-2, and 3.19-3 remains the same.

Wildfire

Transportation projects and anticipated development projects would continue to be located in wildfire-prone areas which could continue to potentially exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from wildfires or the uncontrolled spread of wildfires, particularly

those populations living down wind of the fire. The Final Plan has generally the same transportation and growth pattern, therefore, impacts would remain the same as in the PEIR.

Cumulative Impacts

At the regional level, the cumulative analysis of impacts would not change. The potential for the Plan to combine with other regional plans to create impacts would remain the same as described in the PEIR. The Final Plan results in minor modifications that do not substantively change the analysis of any of the impact areas (as described above). Therefore, cumulative impacts would remain the same as in the PEIR.

8.4 CONTENT OF THE FINAL PEIR

As discussed above, the primary intent of the Final PEIR is to provide a forum to air and address comments pertaining to the analysis contained within the Draft PEIR. Pursuant to *CEQA Guidelines* Section 15088, SCAG has reviewed and addressed all comments received on the Draft PEIR by the comment period deadline. Included within the Final PEIR are the written comments that were submitted during the public comment period.

In order to adequately address the comments provided by interested agencies and the public in an organized manner, this Final PEIR includes the following chapters and appendices:

Section 8.0, Introduction: This chapter provides a brief introduction to the Final PEIR and its contents.

Section 9.0, Responses to Comments: This chapter provides a list of commenting agencies, organizations, and individuals. Responses to all comments on the Draft PEIR are also included in this chapter. Some of the comment letters received on the Draft PEIR also provide comments on the Plan (not the anticipated environmental impacts). These Plan-related comments are addressed separately. Where changes were necessary to the PEIR, the changes were incorporated into this section.

Section 10.0, Corrections and Additions: This chapter provides a list of corrections and additions to the Draft PEIR. None of the changes significantly impact the conclusions presented in the Draft PEIR.

The Final PEIR also includes the previously circulated Draft PEIR.

8.5 REVIEW AND CERTIFICATION OF THE FINAL PEIR

Consistent with CEQA (Public Resource Code Section 21092.5), responses to agency comments are being forwarded to each commenting agency 10 days prior to certification of the Final PEIR. In addition,

responses are also being distributed to all commenters who provided an address. Additionally, the Final PEIR can be downloaded at www.connectsocial.org.

9.0 RESPONSES TO COMMENTS

9.1 FINAL PEIR PROCESS

The Draft Program EIR (PEIR) was submitted to the State Clearinghouse Office of Planning and Research and circulated for public review beginning on December 9, 2019, and ending on January 24, 2020 (SCH # 20199011061) and a Notice of Completion was posted with each of the County Clerks for the six counties in the SCAG region and distributed to various federal, state, regional, and local government agencies, and other interested agencies, organizations, and individuals. The PEIR was circulated primarily using electronic mail to more than 2,700 interested parties. The PEIR was mailed directly to approximately 200 interested parties, including federal, state, regional and local agencies, organizations and major libraries in the region using the U.S. Postal Service certified mail service. Additionally, SCAG placed copies of the Draft PEIR at the offices of SCAG and electronic copies at the 56 public libraries throughout the region and posted the Draft PEIR on its website.

The PEIR was available at the following SCAG Regional Office locations:

SCAG Main Office
900 Wilshire Boulevard, Suite 1700,
Los Angeles, CA 90017

SCAG Riverside County Regional Office
3403 10th Street, Suite 805
Riverside, CA 92501

SCAG Imperial County Regional Office
1405 N. Imperial Avenue, Suite 1
El Centro, CA 92243

SCAG San Bernardino County Regional Office
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410

SCAG Orange County Regional Office
600 South Main Street, Suite 906
Orange, CA 92868

A public workshop was held regarding the Connect SoCal Plan (“Plan”) Draft PEIR on January 9, 2020 from 2:00 pm to 3:30 pm at SCAG’s Los Angeles Office located at 900 Wilshire Boulevard, Suite 1700. This workshop was also a webinar which was available for the public via internet.

The Draft PEIR was made available for public review at the above-referenced locations until January 24, 2020, for a period of 46 days (December 9, 2019–January 24, 2020). A total of 52 comment letters were received by SCAG during the comment period. Among the 52 comment letters, there were 262 unique comments directly related to the Draft PEIR.¹

¹ SCAG received a total 327 comments, 66 of which were considered redundant (i.e, cross-referencing comments from other local jurisdictions or agencies).

This section of the EIR contains a summary of the distribution process for the Draft EIR and a listing of the parties that provided comments during the public review period. The commenters are divided into the following categories:

1. Sovereign Nations
2. Federal Agencies
3. State Agencies
4. Regional Agencies
5. Subregional Agencies
6. County Transportation Commissions
7. Organizations
8. Individuals

Table 9.0-1, List of Commenters on the Draft PEIR, provides a list of the comment letters received in response to the Draft PEIR.

**Table 9.0-1
List of Commenters on the Draft EIR**

Sovereign Nations	
SOV-1	Santa Ynez Band of Chumash Indians
SOV-2	San Manuel Band of Mission Indians
Federal Agencies	
FED-1	Environmental Protection Agency
State Agencies	
STA-1	State of California, California State Transportation Agency
STA-2	California High-Speed Rail Authority
Regional Agencies	
REG-1	John Wayne Airport / Orange County
REG-2	South Coast Air Quality Management District
REG-3	Ventura County Air Pollution Control District
Subregional Agencies	
SUB-1	Orange County Council of Governments
County Transportation Commission	
TRANS-1	Los Angeles County Metropolitan Transportation Authority
TRANS-2	Orange County Transportation Authority
TRANS-3	San Bernardino County Transportation Authority & San Bernardino Council of Governments
TRANS-4	Transportation Corridor Agencies

Local Jurisdictions	
LOC-1	County of Los Angeles Department of Parks and Recreation
LOC-2	County of Ventura Resource Management Agency
LOC-3	Ventura County Public Works Watershed Protection Division
LOC-4	City of Costa Mesa
LOC-5	City of Huntington Beach
LOC-6	City of Indio
LOC-7	City of Irvine
LOC-8	City of La Habra
LOC-9	City of Laguna Hills
LOC-10	City of Lancaster
LOC-11	City of Los Angeles
LOC-12	City of Mission Viejo
LOC-13	City of Moreno Valley
LOC-14	City of South Pasadena
LOC-15	City of West Hollywood
LOC-16	City of Yorba Linda
Organizations	
ORG-1	Coalition for a Safe Environment, et al.
ORG-2	Sierra Club Pomona Valley
ORG-3	Sierra Club Moreno Valley
ORG-4	The Two Hundred
ORG-5	Westwood South of Santa Monica Blvd Homeowner's Association
ORG-6	Alliance for a Regional Solution to Airport Congestion
ORG-7	BizFed
ORG-8	Center for Biological Diversity
ORG-9	Center for Demographic Research
ORG-10	Climate Resolve
ORG-11	Keep Nuevo Rural
ORG-12	UNITE HERE Local 11
ORG-13	Southern California Leadership Council
ORG-14	Service Employees International Union
ORG-15	Bolsa Chica Land Trust
ORG-16	Friends of Harbors, Beaches, and Parks
ORG-17	Sierra Club Save Hobo Alisa Task Force
ORG-18	California Cultural Resource Preservation Alliance
Individuals	
IND-1	Marven Norman
IND-2	Albert Perdon
IND-3	Henry Fung
IND-4	Jordan Sisson
IND-5	Stephanie Johnson and Ghassan Roumani

The responses to comment letters are provided in the front portion of this document with original bracketed comment letters following at the end. For the purposes of identifying and responding to comments on the Draft PEIR, individual letters are numbered as shown in **Table 9.0-1** (top right-hand corner of the first page of each letter) and the individual comments within each letter are assigned a bracketed comment number. For example, the first comment in the comment letter from the U.S. EPA is labeled **Comment FED 1-1**.

Where responses result in a change to the EIR text, table or graphic, the response indicates that a change is made and where the change is made, and the resulting change is identified in **Chapter 10.0, Corrections and Additions**. Chapter 10 shows additions to text in underline and deletions in ~~striketrough~~ format. Where a new graphic or table is entirely new the information is not underlined as new, but rather the Final PEIR indicates that the table information is being replaced. The Final PEIR including all comment letters is available online along with the rest of the PEIR at: <https://www.connectsocal.org/Pages/Final-2020-PEIR.aspx>.

Several commenters on the Connect SoCal PEIR indicated in the subject line of their letter that they were providing comments on the Draft PEIR but the substance of their letter included comments on both the Draft PEIR and Connect SoCal or comments only on Connect SoCal. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15088(a), SCAG is required to evaluate and address only those comments on environmental issues received from public agencies and other interested parties who reviewed the Draft PEIR. SCAG recognizes the importance of public participation and as such, Plan specific comments are addressed through SCAG's online form system which documents and tracks all Plan related comments by sub-category (Goods Movement, Environmental Justice, Conformity Analysis, etc.). Each comment related to the Plan was given a submission ID number (e.g., Submission ID 16285) which was logged and each comment on the Plan responded to as part of the final Plan.

Public participation is a key component of the regional transportation planning process; SCAG encourages public participation and maintains the integrity of input received from local jurisdictions. Commenters who are reviewing the responses to comments to the PEIR and are also interested in Plan related changes can look up the Plan related responses by searching for their submission ID number within the **Comments and Responses Appendix**, which is a sub-appendix of the Final Connect SoCal **Public Participation and Consultation Appendix**. Responses to comments and revisions to Connect SoCal are available via the web at: <https://www.connectsocal.org/Pages/Connect-SoCal-Final-Plan.aspx>.

This Final PEIR, together with the Final Connect SoCal Plan, will be submitted to the SCAG Regional Council for review, and the SCAG Regional Council will consider certification of the Final PEIR and approval of the Plan.

9.2 MASTER RESPONSES

As a result of public review of the Draft PEIR, some themes in comments submitted to SCAG recurred in multiple letters. This subsection provides “Master Responses” for issues that recurred in multiple comment letters. The Master Responses address multiple similar or related comments and themes and provide a comprehensive reply as well as additional information that may have been requested by any individual comment. The responses to the individual comment letters cite the Master Responses as appropriate. Master Responses for this Final PEIR are as follows:

Master Response No. 1: General Comments and Non-CEQA Issues

The Draft Program Environmental Impact Report for Connect SoCal (“PEIR”) was circulated for a 45-day public review period, from December 9, 2019 to January 24, 2020. Fifty-two (52) comment letters on the Draft PEIR were received by SCAG during the comment period. Several of the comment letters contained only comments on the Draft PEIR, while others contained comments on both the Draft PEIR and Draft Plan or comments only on the Draft Plan.

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15088(a), SCAG is required to evaluate comments on environmental issues received from public agencies and other interested parties who reviewed the Draft PEIR. It is important to note that CEQA requires good faith written responses to all “comments on environmental issues,” but not all comments (*City of Irvine v County of Orange* (July 6, 2015) 238 Cal. App. 4th 526). As such, the PEIR provides responses to comments directly related to the environmental analysis that is the subject of the PEIR.

Comments for Connect SoCal were re-routed to SCAG’s online form system which documents and tracks all Plan related comments by sub-category (Goods Movement, Environmental Justice, Conformity Analysis, etc.). Each comment related to the Plan was given a submission ID number (e.g., *Submission ID 0001549*) and has been logged appropriately for Planning staff to review and respond to through the Connect SoCal review process.

Purpose of EIR and EIR Process

CEQA’s statutory framework sets forth a series of analytical steps intended to promote the fundamental goals and purposes of environmental review – information, participation, mitigation, and accountability. The purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect that a project is likely to have on the physical environment, to list ways in which any significant adverse effects might be minimized, and to indicate alternatives that reduce any identified adverse impacts (Public Resources Code Section 21061). Thus, the purpose of this EIR is to evaluate potential impacts on the environment resulting from the Proposed Plan and to identify mitigation

measures and alternatives that would avoid or substantially lessen significant environmental impacts while attaining most of the objectives of the Plan.

Pursuant to the California Public Resources Code Section 21091(d), SCAG considered all comments received on the Draft PEIR and this document provides written response describing the “disposition of each significant environmental issue that is raised by commenters.” *CEQA Guidelines* Section 15088 provides further guidance on the preparation of response to comments and indicates that while lead agencies must evaluate all comments received on a Draft PEIR they need only respond to comments related to significant environmental issues associated with a project. *CEQA Guidelines* Section 15204 further provides that lead agencies in responding to comments do not need to provide all the information requested by commenters, as long as a good faith effort at full disclosure is made in the EIR. *CEQA Guidelines* Section 15204 recommends that commenters focus on the sufficiency of the EIR in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Section 15204 further indicates that commenters should provide an explanation and evidence supporting their comments. An effect shall not be considered significant in the absence of substantial evidence supporting such a conclusion (*CEQA Guidelines* Section 15064). CEQA case law has held that lead agencies are not obligated to undertake every suggestion given to them and are also not required to conduct every test or perform all research, study, and experimentation recommended by commenters. Under CEQA, the decision as to whether an environmental effect should be considered significant is reserved to the discretion of the lead agency based on substantial evidence in the record.

Adequacy of Analysis

The focus of SCAG’s responses to comments received on the Draft PEIR is the “disposition of significant environmental issues raised” in the comments (*CEQA Guidelines* Section 15088(c)). Detailed responses are not necessarily provided for comments that do not relate either to significant environmental issues or adequacy of the analysis in the PEIR. This includes comments that raise issues that are not environmental impacts as identified by CEQA (e.g., socioeconomic concerns), or relate to unsupported opinions regarding the adequacy of the PEIR analysis and/or the PEIR’s findings of significance.

CEQA was recently amended to reflect recent case law to clarify that CEQA is focused on the analysis of impacts of the project on the environment and not impacts of the environment on the project.² So for example, geotechnical issues are only of concern with respect to an analysis under CEQA, if a project

² See California Supreme Court’s decision in *California Building Industry Association v Bay Area Air Quality Management District*, (S213478, December 17, 2015) and California Court of Appeals decision in *California Building Industry Association v Bay Area Air Quality Management District*, (August 12, 2016).

could exacerbate existing conditions. Or with respect to residential uses located in proximity to a freeway, impacts of existing air pollution need only be addressed in a CEQA document if a project would exacerbate existing conditions. That is not to say that geotechnical concerns and freeway pollution are not concerns to be addressed in the entitlement process, they are just addressed outside the CEQA process. The Connect SoCal PEIR evaluates these existing conditions in relation to the Plan in order to determine if the Plan has the potential to exacerbate impacts.

The analysis in the Connect SoCal PEIR is based on scientific and factual data which has been reviewed by the lead agency and reflects its independent judgement and conclusions. CEQA permits disagreements between experts with respect to environmental issues addressed in an EIR. As stated in Section 15151 of the *CEQA Guidelines*, disagreement among experts does not make an EIR inadequate. The courts have looked not for perfection but for adequacy, completeness and a good faith effort at full disclosure.

Plan Comments

This PEIR is not intended or required to provide justification for Connect SoCal. Rather, this PEIR is an informational document that is intended to provide public agencies and the public with detailed information about the effect that the Plan is likely to have on the environment. This PEIR also identifies ways in which the significant effects of the Plan might be minimized and identifies alternatives to the Plan. The PEIR is not a vehicle for making changes to the Plan absent the proposed change reducing one or more identified significant adverse environmental impacts. Requests for changes to the Plan on individual properties are addressed outside the CEQA process.

Opinions and General Support for, or Opposition to, the Project

A number of comments raise issues that are not within the purview of CEQA, such as suggestions for changes to the Plan unrelated to potential significant adverse environmental impacts. The commenters often raise issues that are important to the decision-making process but are not properly addressed as part of the CEQA process. In addition, several commenters provide their opinion(s) that impacts be considered significant or that the significance conclusions in the EIR be revised but do not provide substantial evidence in support of their opinions. Commenters also express their opinions in support or opposition to the Plan, or outline concerns associated with specific features or provisions of the Plan that do not relate either to significant environmental issues or adequacy of the environmental analysis in the EIR.

While SCAG welcomes all comments, opinions and expressions of opposition or support unrelated to physical environmental impacts, these comments are appropriately addressed outside the CEQA process.

The purpose of the PEIR is to present objective information as to the Proposed Plan's potential physical environmental impacts. Moreover, the purpose of allowing the public and agencies to comment on a Draft PEIR is to allow any errors to be identified and corrected. Opinions concerning issues not addressed by CEQA, unsupported opinions regarding environmental issues already addressed in an EIR, as well as expressions of opposition or support for a project, are made a part of the administrative record and are forwarded to the decision-makers for their consideration in taking action on the project, but they are not responded to in a CEQA document.

Master Response No. 2: Program EIR vs. Project EIR

The Connect SoCal PEIR is a programmatic document that provides a region-wide assessment of the potential significant environmental effects of implementing policies, strategies, projects, and programs included in Connect SoCal. CEQA allows that a Program EIR, "may be prepared on a series of actions that can be characterized as one large project and are related either (1) geographically, (2) as logical parts of the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways" (*CEQA Guidelines* § 15168). The PEIR for Connect SoCal offers regional scale analysis of the impacts of the Plan and provides mitigation measures to be implemented by SCAG at the regional level, and mitigation measures for subsequent, site specific environmental review, including project-level EIRs and/or Environmental Impact Statements (EISs) prepared by implementing agencies for individual projects as well as General Plans.

The focus of the environmental analysis in the PEIR is on potential regional-scale impacts associated with implementation of Connect SoCal as a whole. Connect SoCal includes individual transportation projects and provides land use policies set forth in the SCS component of the Plan. Because the Plan and PEIR is programmatic in nature and regional in approach, it does not include site-specific analysis of any project contained in Connect SoCal. Many of the individual transportation projects included in the Plan are early in the development phase, and detailed project/site specific analysis is not appropriate at this time without undue speculation. (See *CEQA Guidelines* § 15126.6(f)(3)).

While the PEIR identifies a number of significant impacts at the regional level, these impacts must be separately assessed at the project level to determine whether specific project conditions may result in significant impacts at the local or sub-regional level. Subsequent project-level environmental analyses will determine whether or not an individual project has significant, project-level impacts requiring the consideration of project-level mitigation measures.

Use of a program-level approach ensures consideration of the cumulative effects of the transportation projects contemplated over the 25-year planning horizon and avoids duplicative reconsideration of the basic policy consideration in the Plan related to land use patterns, alternative modes of travel, active transportation, and sustainability. As specified by Section 15168(c) of the *State CEQA Guidelines*, subsequent activities analyzed in the PEIR must be examined to determine whether an additional environmental document must be prepared. If a later activity would have effects that were not examined in the PEIR, a new initial study would need to be prepared leading to determine the appropriate level of environmental compliance documentation pursuant to CEQA (See *CEQA Guidelines* § 15002(k)).

Master Response No. 3: Baseline Conditions

Environmental impacts for the PEIR were determined by applying the thresholds of significance which compare future Plan conditions to the existing environmental setting (See *CEQA Guidelines* §15126.2(a)). The PEIR must identify significant impacts that would be expected to result from implementation of the Plan. Significant impacts are defined as a “substantial or potentially substantial, adverse change in the environment” (Public Resources Code § 21068).³ Significant impacts must be determined by applying explicit significance criteria to compare the future Plan conditions to the existing environmental setting (*CEQA Guidelines* § 15126.2(a)).⁴ The existing setting is described in detail in each resource section of Chapter 10.0 of this document, and represents the most recent, reliable, and representative data to describe current regional conditions at the time of publication of the NOP for the PEIR, January 23, 2019. In most instances, the most recent available data was for 2018 or 2019. For population, land use and related modeling analyses (air quality, transportation and noise), base year information is collected every four years as part of the Plan. The base year for the Plan is 2016. For purposes of the PEIR, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Available data that differs from this generalized explanation and used to determine existing conditions is specified in each resource section in Chapter 3.0 of this document.

The existing environmental setting was described in detail for each of the resource categories (see **Chapter 1.0, Introduction**, and **Chapter 3.0, Environmental Analysis**, for further clarification) and represents the most recent and representative data to describe current regional conditions during the publication of the NOP for the PEIR.

SCAG agrees that, “the public and decision makers are entitled to the most accurate information on projects practically possible, and the choice of a baseline must reflect that goal.” (*Communities for a Better*

³ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

⁴ CEQA. *Article 9. Contents of Environmental Impact Reports*.

Environment v. South Coast Air Quality Management District (2010) 48 Cal.4th 310). The *Neighbors for Smart Rail vs. Exposition Metro Line Construction* lawsuit challenged Metro's use of the future no project condition instead of the existing condition for assessing project impacts. The Court ruled that a lead agency has discretion to omit existing conditions analyses by substituting a baseline consisting of environmental conditions projected to exist solely in the future, but to do so the agency must justify its decision by showing an existing conditions analysis would be misleading or without informational value.

While SCAG uses existing conditions as the baseline to assess the significance of potential environmental impacts, as is the default under CEQA, the PEIR nevertheless identifies Future No Project (i.e., future no build) impacts compared to Future Plan impacts for the information of the public and decision makers. Adding anticipated increases in traffic to existing conditions (and using existing emission factors) would be unreasonable; SCAG is no more responsible for all the growth in the region than it is responsible for changes in emissions factors. SCAG conservatively analyzes changes in the region between 2019 and 2045 as a whole in the context in which they could reasonably occur.

Master Response No. 4: Technical Process/Modeling

Transportation modeling for the Plan is based on SCAG's Regional Travel Demand Model, which is an activity-based model that meets all the requirements of the Transportation Conformity Rule, specifically 40 CFR 93.122(b). To calculate greenhouse gas emissions, results from the Regional Travel Demand Model are input to ARB's Emission Factors (EMFAC 2014) model, which was approved by U.S. EPA on Dec. 14, 2016. Although U.S. EPA recently approved a newer version of the model, EMFAC2017, on August 15, 2019, a two-year grace period had been established by U.S. EPA to allow EMFAC2014 for regional conformity analysis through August 15, 2021 [see 40 CFR sec. 93.111(c)]. The regional emissions analysis for Draft Connect SoCal started in early 2019, long before the approval of EMFAC2017. For those areas which require budget tests, the Plan emissions values in the summary tables below utilize the rounding convention used by ARB to set the budgets (i.e., any fraction rounded up to the nearest ton), and are the basis of the conformity findings for these areas.

Additionally, in order to conservatively account for the emission impact of the federal "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program," all the plan and no-build emissions reflect the EMFAC2014 off-model adjustment factors released by ARB on November 20, 2019.⁵

⁵ Note that while the SAFE Rule caused FHWA and FTA to temporarily cease conformity findings pending direction from EPA, EPA recently issued such direction when it approved CARB's off-model adjustment factors for EMFAC 2014 modeling. (See Letter from US EPA to FHA and FTA dated March 12, 2020 re: Appropriate Model for Transportation Conformity in California). As such, FHWA and FTA is expected to resume transportation conformity determinations.

Transportation conformity is required by the federal Clean Air Act to ensure that federally-supported transportation activities conform to or are consistent with the State's air quality implementation plan for meeting the federal health-based air quality standards. To comply with the CAA in achieving the NAAQS, State Implementation Plans (SIPs) are required to be developed for federal nonattainment and maintenance areas. A SIP may include two important components relative to transportation conformity requirements – motor vehicle emissions budgets (for all criteria pollutant SIPs) and TCMs (for ozone and CO SIPs only). The emissions budgets set an upper limit which transportation activities (for SIP purposes, motor vehicles are also known as “on-road mobile sources”) are permitted to emit. The regional emissions analysis presented in the Connect SoCal Transportation Conformity Analysis uses EMFAC2014.

To the extent possible, the Plan and the PEIR aim to be consistent with one another, as such, the PEIR also uses EMFAC 2014 for the analysis. SCAG's transportation demand model, which provides the basis for the HRA, is highly complex with myriad inputs and adjustments. To recreate the complete SCAG transportation demand model using EMFAC 2017, which had not been approved at the time the analysis for the Plan or the PEIR had commenced, would undoubtedly create confusion and schedule delay. For these reasons, the PEIR uses EMFAC 2014. Regarding the utility of the Plan's conformity determination with EMFAC 2014, the process for amendments and project conformity determinations is vetted through SCAG's Transportation Conformity Working Group. At this time, there is no proposed change in the process for project review.

SCAG's regional transportation modeling area covers the entire SCAG region, including the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG's modeling area is divided into 11,267 Transportation Analysis Zones (TAZs) with an additional 40 external cordon stations, 12 airport nodes, and 31 port nodes for the Ports of Los Angeles and Long Beach. The SCAG model was peer reviewed and developed based on the 2012 California Household Travel Survey. A comprehensive model validation was also performed to ensure the model properly replicates base year (2016) travel conditions, which is the base year for Connect SoCal.

Modeling input and assumptions for SCAG's modeling include but are not limited to socioeconomic data, highway networks, and transit networks. This also includes all projects which were featured in the Plan's Project List Appendix which were provided by the six County Transportation Commissions (CTCs) in the SCAG region. It is important to emphasize that Connect SoCal does not primarily focus on specific or local projects but analyzes the transportation network of the entire region.

To achieve federal transportation conformity, SCAG is required to model regionally significant and federally supported projects contained within the Federal Transportation Improvement Program (FTIP).

SCAG is aware that some of the projects are currently under environmental review and that a preferred alternative has yet to be determined. Upon determination of the preferred alternative, SCAG will work with applicable local jurisdictions to amend the RTP/SCS as necessary to update the project description and associated modeling analysis.

The forecasted land use development patterns are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analysis. Data at the TAZ level or at a geographically smaller than the jurisdictional level are advisory only, and non-binding, since SCAG sub-jurisdictional forecasts are not adopted as part of the Plan. The data is controlled to be within the density range of local general plans and/or based upon input received from local jurisdictions. For purposes of evaluating a local project's eligibility to utilize CEQA streamlining opportunities, lead agencies have the sole discretion to determine project consistency with Connect SoCal.

The EMFAC2014 (approved by U.S. EPA in December 2015) model is a computer model capable of estimating both current year, back-cast and forecasted emission inventories for calendar years 2000 to 2050. EMFAC estimates the emission rates of 1965 and newer vehicles, powered by gasoline, diesel or electricity. Emission inventory estimates are made for 51 vehicle classes segregated by usage and weight. EMFAC calculates the emission rates of CO₂ and other criteria pollutants, such as ROG, NO_x, PM₁₀, PM_{2.5}, SO_x, and also CH₄ for 45 model years for each vehicle class within each calendar year, for twenty-four (24) hourly periods, and each month of the year, for each district, air basin, county and sub-county in California.

The CARB Vision Scenario Planning Tool is another computer model that was used to determine multiple pollutants (CO₂, PM_{2.5}, NO_x and ROG) for the transportation system-wide categories such as locomotives, and ships. It is based on California specific data from different CARB official emission inventories, such as off-road mobile sources (i.e., locomotives, and Ocean-Going Vessels).

To determine regional CO₂ and other criteria pollutants for the "On-road" transportation sector which included Light and Medium-duty vehicles (LMDV; vehicles with weight class less than 8,500 lbs), Heavy duty trucks (HDT; Trucks with weight class greater than 8,501 lbs) and all buses, SCAG runs the EMFAC2014 model using the output from the trip-based regional transportation demand model. In order to compare with the regional GHG emissions targets derived using EMFAC2007 (in 2010), the EMFAC2014 model GHG emissions outputs have been converted to EMFAC2007 equivalents applying ARB's adjustment methodology.

For CO₂ equivalent (CO_{2e}) estimation, the three main Greenhouse Gases (GHGs): CO₂, Methane (CH₄) and Nitrous Oxide (N₂O) from both "On-road" and "Off-road" transportation sector are obtained from

EMFAC2014 and ARB's Vision tool respectively. The "Off-road" transportation sector includes rail, aviation and Ocean-Going Vessel (OGV). Standard ratios are used to convert the GHGs into CO_{2e}. These ratios are based on the Global Warming Potential (GWP) of each gas which describes its total warming impact relative to CO₂. For example, GWP for CH₄ is 25, meaning that one ton of CH₄ will cause the same amount of warming as 25 ton of CO₂. After all GHGs are converted, they are aggregated as the regional total CO_{2e}.

SCAG's Scenario Planning Model (SPM) was used to assist in scenario planning and determining output for the SCS. SPM is a data management, land use planning and modeling tool built on the open source version of UrbanFootprint platform (UF 1.5), which was originally developed by Calthorpe Analytics in partnership with SCAG and other California Public Agencies. SPM enables the creation and organization of local and regional data, plan and policies, facilitates scenario creation and editing and estimates a wide range of potential benefits resulting from alternative transportation and land use strategies.

SPM has been deployed as two separate web services: Data Management (DM) tool and Scenario Development and Analysis (SD) tool. SPM-DM provides a common data framework within which local planning efforts can be easily integrated and synched with regional plans. Using a variety of data management and review options, the user (local jurisdictions) can explore data, export attributes and edit configured layers. SPM-DM was released in November 2018 to all 197 local jurisdictions in the SCAG region in support of SCAG's local input and envisioning process for the Connect SoCal. To assist cities and counties in using the tool, a total of 21 hands-on training sessions in a classroom setting have been provided throughout the region. SPM-SD includes a suite of tools and analytic engines that facilitate scenario creation and editing with advanced analytic capabilities and allow meaningful comparison across different land use and transportation options. Starting with the 2016 RTP/SCS, SPM-SD has been used in providing directional and order-of-magnitude impacts of local land use and policy decisions that would assist in the development of regional plans and associated scenario analysis.

Please refer to the Transportation Conformity Analysis Technical Report and the Sustainable Communities Strategy Technical Report for further clarifications regarding methodology, model inputs and assumptions.

Master Response No. 5: Approach to Mitigation Measures

CEQA requires that SCAG identify all feasible mitigation measures in the PEIR that will avoid or substantially lessen the significant environmental effects of the project.^{6,7,8} CEQA, however, does not

⁶ California Legislative Information, *Chapter 1. Policy [21000-21006]*.

⁷ California Legislative Information. *Chapter 2.6. General [21080-21098]*.

require a lead agency to undertake identified mitigation measures, even if those measures are necessary to address a project's significant environmental effects, if the agency finds that the measures "are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency"⁹ *City of Marina v. Bd. of Trustees of the Calif. State Univ.* (2006) 39 Cal.4th 341, 366; see also *Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439). Under these circumstances, the lead agency may find that the measures "can and should" be implemented by the other agency or agencies said to have exclusive responsibility/jurisdiction over the measures (*City of Marina*, 39 Cal.4th at 366). As the *CEQA Guidelines* explain, the "finding in subsection (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives."¹⁰

Furthermore, SB 375 specifically provides that nothing in an SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy.¹¹ Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law,¹² the zoning law,¹³ and the Subdivision Map Act.¹⁴ As such, SCAG has no concurrent authority/jurisdiction to implement mitigation related to land use plans and projects that implement the Plan. With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

In litigation challenging SANDAG's adoption of its 2050 Regional Transportation Plan/Sustainable Communities Strategy, the California Court of Appeal found that "[a]n EIR may not defer the formulation of mitigation measures to a future time, but mitigation measures may specify performance standards which would mitigate the project's significant effects and may be accomplished in more than one specified way." *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2014) 231 Cal. App. 4th 1056, 1089 (partially reversed on other grounds by *Cleveland National Forest Foundation v. San*

⁸ CEQA. Article 9. Contents of Environmental Impact Reports.

⁹ California Legislative Information. Chapter 2.6. General [21080-21098].

¹⁰ CEQA. Article 7. EIR Process.

¹¹ California Legislative Information. Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074].

¹² California Legislative Information. Chapter 3. Local Planning 65100-65763.

¹³ California Legislative Information. Chapter 4. Zoning Regulations 65800-65912.

¹⁴ California Legislative Information. Division 2 Subdivisions 66410-66499.38.

Diego Assn. of Governments (2017) 3 Cal.5th 497¹⁵

CEQA Guidelines section 15126.4(a)(1)(B) codifies this concept:

“Formulation of mitigation shall not be deferred until some future time. The specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards.”

In this case, the project-level mitigation measures could be considered deferred mitigation for the Plan, however, since SCAG has no authority to impose project-level mitigation, it will be up to local lead agencies, to determine and commit to the appropriate mitigation measures (and performance standards) for the individual projects. Note that this PEIR does not rely on the project-level mitigation measures being implemented in making significance findings (since the measures are within the jurisdiction of another agency and cannot be implemented by SCAG). As discussed in more detail below, consistent with *CEQA Guidelines* section 15091(a)(2), SCAG has identified project-level mitigation measures that such agencies “can and should” adopt as appropriate and feasible. Local lead agencies would coordinate with permitting agencies (e.g., air quality management districts, California Coastal Commission, California Department of Fish and Wildlife, etc.) and adopt and implement appropriate mitigation measures required based on the specific conditions of the project in compliance with applicable planning, zoning and environmental protection regulations.

¹⁵ CEQA case law has also held that deferral of the specifics of mitigation is permissible where the lead agency commits itself to mitigation and, in the mitigation measure, either describes performance standards to be met in future mitigation or provides a menu of alternative mitigation measures to be selected from in the future (*California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603 [the details of exactly how the required mitigation and its performance standards will be achieved can be deferred pending completion of a future study]; *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1448–1450 [a deferred approach may be appropriate where it is not reasonably practical or feasible to provide a more complete analysis before approval and the EIR otherwise provides adequate information of the project’s impacts]; *Sacramento Old City Assn. v. City Council of Sacramento*, *supra*, 229 Cal.App.3d at 1028–1029 [deferral of agency’s selection among several alternatives based on performance criteria was appropriate]).

Some commenters have suggested compliance with existing regulations may not be considered mitigation because compliance is already required. However, such regulations do reduce environmental impacts and are sometimes identified herein where appropriate, to provide information on how potential impacts are reduced. In some cases, as indicated in the PEIR, regulatory compliance is enough to reduce impacts to a level of less than significance. In other cases, mitigation is proposed to ensure and/or specify the means of compliance with regulations that lack specificity. In any event, requiring compliance with existing regulations as mitigation is consistent with CEQA. “[A] condition requiring compliance with regulations is a common and reasonable mitigation measure and may be proper where it is reasonable to expect compliance.” *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 234 Cal. App. 4th 214, 246 (quoting *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906). Indeed, in many cases, the regulations provide the standard for future (project-level) mitigation to satisfy CEQA. *See id.* (“These regulations [requiring the development of hatchery genetic management plans] provide sufficient performance standards to satisfy CEQA.”). However, in many jurisdictions the identification of appropriate performance standards may be specific to local conditions. Mitigation measures are subject to the same rules regarding level of detail appropriate to the EIR being prepared. In this case, the PEIR addresses a large-scale region with a variety of projects spread over more than 20 years. As such, this PEIR identifies program-wide measures for implementation by SCAG. In addition, the PEIR identifies project-level mitigation measures for lead agencies to consider, as applicable and feasible, in subsequent project-specific design, CEQA review, and decision-making processes. It is ultimately up to the lead agency to determine the appropriateness of the mitigation measure based on project-specific circumstances. As appropriate and authorized by the *CEQA Guidelines* and case law, the program-wide mitigation measures included in this PEIR are less detailed than those that would be part of a project EIR and the selection of detailed mitigation measures is properly deferred to future project-specific CEQA reviews.

The project-level mitigation measures identified by SCAG (or comparable measures) “*can and should*” be considered by lead agencies in project-specific environmental review documents as appropriate and feasible. This language mirrors *CEQA Guidelines* section 15091(a)(2), and it is assumed that each lead agency for specific projects would have the ability to impose and enforce these measures (i.e., that they can implement them). Lead agencies for specific projects are responsible for developing project specific mitigation measures and ensuring adherence to such mitigation measures.

While the PEIR strives to provide as much detail as possible in the mitigation measures, some flexibility must be maintained to present mitigation approaches for impacts occurring over a large geographic scope and caused by a wide variety of transportation and land use activities. CEQA case law provides that a first-tier EIR may contain generalized mitigation criteria (see, e.g., *Koster v. County of San Joaquin* (1996) 47

Cal.App.4th 29). In addition, in each resource area, the PEIR identifies mitigation measures which lead agencies “can and should” consider in assessing and mitigating project-specific impacts as appropriate and feasible. SCAG then identifies examples of project-level mitigation measures that may be required by lead agencies. Lead agencies may also identify other comparable measures capable of reducing impacts below the specified threshold.

For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226, or for projects otherwise tiering off this PEIR, the project-level mitigation measures described in this PEIR (or comparable measures) can and should be considered and adopted by lead agencies (and project sponsors) during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require lead agencies to adopt mitigation, and it is ultimately the responsibility of the lead agency to determine and adopt project-specific mitigation as appropriate and feasible for each project.

The project-level mitigation measures used in this PEIR recognize the limits of SCAG’s authority; distinguish between SCAG commitments and project-level responsibilities and authorities; optimize flexibility for project implementation; and facilitate CEQA streamlining and tiering where appropriate on a project-by-project basis determined by each lead agency.

Compliance with existing regulations, such as the Uniform Building Code and California Building Code may not be considered mitigation because compliance is already required. However, such regulations do reduce environmental impacts and are sometimes identified herein where appropriate, to provide additional information on the how potential impacts are reduced. In some cases, as indicated in the PEIR, regulatory compliance is enough to reduce impacts to a level of less than significance. In other cases, mitigation is proposed to ensure and/or specify the means of compliance with regulations that lack specificity. In any event, requiring compliance with existing regulations as mitigation is consistent with CEQA. “[A] condition requiring compliance with regulations is a common and reasonable mitigation measure and may be proper where it is reasonable to expect compliance.” *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 234 Cal. App. 4th 214, 246 (quoting *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906). Indeed, in many cases, the regulations provide the standard for future (project-level) mitigation to satisfy CEQA. *See id.* (“These regulations [requiring the development of hatchery genetic management plans] provide sufficient performance standards to satisfy CEQA.”)

Master Response No. 6: Vehicle Miles Traveled (VMT) Analysis

Overview

With a continuously growing regional population, now exceeding 19 million residents, the containment of vehicle miles traveled (VMT) growth and the associated greenhouse gas (GHG) emissions generated by motor vehicles presents a major challenge for the SCAG region. SCAG is actively working with its jurisdictions on a variety of fronts, including the development and implementation of aggressive VMT reduction strategies. It is understood that focusing on any singular strategy for reducing GHG is insufficient for meeting our regional GHG targets, and that efforts toward reducing VMT do not constitute the entirety of mobile source GHG emissions reduction opportunities. However, other strategies, including the development of clean vehicle technologies and adoption of cleaner vehicle fuel standards (as well as GHG emission reductions associated with stationary and other sources), are beyond SCAG's regional planning purview. For this reason, SCAG's planning efforts toward reducing GHG emissions to meet our regional climate goals are focused largely, but not exclusively, on containment of VMT growth. The reduction of regional GHG emissions is among the highest priorities of SCAG's 2020 RTP/SCS (Connect SoCal). The integrated program of projects, plans, and strategies contained within Connect SoCal provide a solid foundation for making significant progress toward achievement of our regional GHG reduction objectives.

Background

In response to growing concerns regarding the consequences of climate change and the role of VMT in the generation of GHG emissions, the California state legislature passed Senate Bill 743 in 2013. SB 743 required the adoption of a new methodology to replace motor vehicle delay, measured by 'Level of Service' (LOS), for evaluating transportation impacts under the CEQA review process. The new methodology was required to facilitate GHG emissions reduction; encourage development of compact, transit-oriented communities; and promote the provision and enhancement of bicycle and pedestrian facilities and amenities.

Statewide implementation of the SB 743 CEQA transportation impact assessment provisions, combined with other regulations aimed at reducing VMT, are expected to generate VMT reduction benefits which will reduce GHG emissions produced by motor vehicles throughout the state. The *CEQA Guidelines* were updated as of January 1, 2019 to specify VMT as the metric to be used for determining the significance of transportation impacts.¹⁶ It should be noted that SCAG has traditionally undertaken VMT analysis as it is considered to be most appropriate for regional-scale analysis. While LOS analysis may be useful in

¹⁶ *CEQA Guidelines* § 15064.3

determining the efficiency of local intersections, it is not a viable tool for assessing the efficiency of a regional transportation system. For these reasons, SCAG considers VMT analysis to be the most appropriate tool for evaluating the overall performance of the regional transportation network and for evaluating and meeting our regional GHG reduction goals.

In November of 2018, CARB released its 2018 California’s Sustainable Communities and Climate Protection Act Progress Report, recognizing the importance of realizing and measuring the benefits identified through SB 375 planning work.¹⁷ Key findings of the report include that while positive gains have been made to improve the alignment of transportation, land use, and housing policies with state goals, the data suggests that more action is necessary for attaining our climate goals. CARB indicates their regional 2035 GHG emissions reduction targets under SB 375 are not adequate to fully meet the goals of the 2017 Scoping Plan for the cars and light-duty trucks. Collectively, CARB determined that if the state’s 18 MPOs all met the SB 375 GHG emissions reduction targets set in 2018, a 19 percent reduction in per capita GHG (from cars and light-duty trucks) would be achieved by 2035. In the target re-setting report, CARB expressed that to meet the statewide reduction goals set forth by SB 32 and the 2017 Scoping Plan, the state would need to reduce per capita GHG emissions from cars and light-duty trucks by 25 percent by 2035, resulting in a six percent gap between the 19 percent emissions reduction targets set for the regions (averaged for the 18 MPOs and compared to a baseline year of 2005). Therefore, even with meeting CARB’s SB 375 GHG emissions reduction target, a six percent gap compared to the state’s 25 percent reduction goal remains.

As CARB notes, “[a]n RTP/SCS that meets the applicable SB 375 targets alone will not produce the GHG emissions reductions necessary to meet state climate goals in 2030 nor in 2050”.¹⁸ CARB has also noted that greater reductions in VMT will be required to make up the six percent gap in GHG emissions targets. Further, according to the 2018 Sustainable Communities Progress Report, “California – at the state, regional, and local levels – has not yet gone far enough in making the systemic and structural changes to how we build and invest in communities that are needed to meet state climate goals.” It will require collaboration among all levels of government and the MPOs to identify the additional VMT reductions needed to achieve the state’s climate goals. MPOs need to maintain a leadership role in the GHG reduction efforts within their region, working closely with their local jurisdictions, with the

¹⁷ CARB. 2018. *2018 Progress Report California’s Sustainable Communities and Climate Protection Act*. Available online at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf, accessed October 3, 2019.

¹⁸ CARB. 2017. *Final Staff Report Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*. Available online at: https://ww3.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf?ga=2.217174102.1993336916.1570127197-1229197864.1566229390, accessed October 4, 2019.

understanding that MPOs do not have the land use authority or the resources to meet this extraordinary challenge alone.

OPR and CARB have both published recommendations for reducing VMT reductions at the project level which may provide a means to close the gap between GHG reductions achieved through SCS implementation and the GHG reductions necessary to meet the state's goals. As additional GHG reductions from the transportation sector become increasingly difficult to achieve, it is possible that a cap-and-trade style strategy may prove to be a viable method for further reducing transportation-related emissions through a market-based carbon trading mechanism applied at a regional level.¹⁹ Implementation of such a cap-and-trade program remains speculative at the time of writing this PEIR, however. Additionally, and as recognized by CARB, MPOs do not have land use authority to implement additional VMT reductions. Furthermore, SCAG has no control or authority over other key GHG producing sectors (e.g., energy, industry, water, waste and agriculture) in meeting the AB 32, SB 32, and Scoping Plan targets.

Recognizing the potential impact SB 743 may have on reducing regional GHG emissions, SCAG is committed to providing the needed policy guidance and technical assistance to ensure its successful implementation at the local level throughout our region. In addition to the multiple workshops and stakeholder meetings hosted by SCAG throughout the SB 743 development process, SCAG has included SB 743 implementation assistance among the eligible project types for our Sustainability Grant Program (SGP). Three such grants were awarded by SCAG for SB 743 implementation projects for the City of Temecula, the San Bernardino County Transportation Authority (SBCTA), and the City of Los Angeles Department of Transportation (LADOT). These grant-funded efforts seek to ease the transition to the VMT assessment methodology for our local jurisdictions and to provide an implementation template for other local agencies throughout our region.

In addition to the SGP grants, SCAG, in collaboration with LADOT, has been awarded a \$500,000 Caltrans Sustainable Communities grant to establish a pilot demonstration for a VMT Mitigation Exchange or Bank program. This pilot program seeks to evaluate the viability of implementing a regional or subregional VMT mitigation mechanism that would permit project-level VMT impacts to be counterbalanced by equivalent VMT mitigation activities in other areas of that region. If successful, a VMT Exchange or Bank program may allow certain transportation or land use development projects that

¹⁹ In June 2015, fuels (gasoline, diesel, and natural gas) were covered under the Cap-and-Trade programs, which would require fuel suppliers to reduce GHG emissions by supplying low carbon fuels or purchase allowances to cover the GHG emissions produced when conventional petroleum-based fuel is burned. Therefore, a program is already in place within the Cap-and-Trade program to reduce GHG emissions from the transportation section. (See: CARB. *California's Cap and Trade Program: Fuel Facts*. Available online at: https://ww3.arb.ca.gov/cc/capandtrade/guidance/facts_fuels_under_the_cap.pdf, accessed October 23, 2019.)

generate VMT above locally-identified thresholds, to mitigate such impacts. The VMT exchange program would then be employed to implement or finance feasible VMT mitigation activities (possibly in other areas of the region) to reduce the VMT impact to a less than significant level.

Master Response No. 7: Regional Housing Needs Assessment

The PEIR evaluates the environmental effects of implementation of Connect SoCal, and specifically analyzes reasonably foreseeable regional growth as identified in the Connect SoCal Growth Forecast and planned for in the SCS. As discussed in the PEIR, Connect SoCal and this PEIR address reasonably foreseeable households in the SCAG region. The population and households are distributed in accordance with the growth forecast as described in the Demographics and Growth Forecast Technical Report in the Plan. Furthermore, while state planning law requires the SCS to identify areas sufficient to house the 8-year RHNA need pursuant to Government Code section 65080(b)(2)(B)(iii) it is important to recognize that the RHNA allocation of housing need is a distinct and separate process set forth under state housing law, Government Code section 65584 et seq. The RHNA requirements address the mandate to plan for housing units to further the statutory objectives. The RHNA establishes “minimum housing development capacity that cities and counties are to make available via their land use powers to accommodate growth within a planning period.”

As will be discussed in more detail below, in contrast to Connect SoCal, the RHNA process is explicitly exempt from CEQA pursuant to Government Code section 65584(g), *CEQA Guidelines* § 15283, and *CEQA Guidelines* section 15282(r). As such, the comments that assert that the RHNA determination should be addressed in this PEIR are incongruous with the regulatory framework of the RHNA.

RHNA Background

As discussed in the Connect SoCal Master Response No. 1, the 2016-2045 Growth Forecast undergirding Connect SoCal provides an assessment of the reasonably foreseeable future patterns of employment, population, and household growth in the SCAG region given demographic and economic trends, and existing local and regional policy priorities. The Connect SoCal Growth Forecast begins with an assessment of regional demographic and economic trends and uses a variety of spatially-explicit data sources—including local land use plans—to assess where growth is most likely to occur within the region, emphasizing a balance between future employment, population, and households. Between November 2017 and October 2018, SCAG staff met one-on-one with all 197 local jurisdictions in the region to solicit additional information for improving the accuracy of the preliminary forecast at several intervals (2016, 2020, 2030, 2035, and 2045). Further refinements were made at the small area (i.e., sub-jurisdictional) level to reflect regional sustainability goals and policies through the scenario development process.

The legislative changes of 2018 modified the nature of the regional housing need determination for the 6th Cycle RHNA. Specifically, Government Code 65584.01(b) et seq. explicitly added measures of household overcrowding and housing cost burden to the list of factors to be considered by the California Department of Housing and Community Development (HCD) for the determination of housing need. These new measures (overcrowding and cost burden) are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”).

Thus, the 6th Cycle RHNA regional housing need total of 1,341,827, as determined by HCD, consists of both “projected need,” which is intended to accommodate the growth of population and households during the 6th Cycle RHNA (2021-2029), as well as “existing need.” On January 13, 2020, HCD’s finding that SCAG’s draft RHNA methodology furthered the statutory objectives of RHNA, reflected that the determination is separated into “projected need” and “existing need” components. On March 5, 2020, SCAG Regional Council adopted the draft RHNA methodology as the final methodology for the 6th Cycle RHNA.

Connect SoCal and the 6th Cycle RHNA

The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. Actual housing production depends on a variety of factors external to the identification of need through RHNA—local jurisdictions frequently have sufficient zoned capacity but actual housing construction exceeds or fails to achieve RHNA targets due to market and other external forces. For example, per HCD’s most recent Annual Progress Reports covering new unit permits through 2018, the region’s low and very-low income permits totaled 19,328 units (2,494/year) compared to the RHNA allocation of 165,579 units (21,365/year). In contrast, the Connect SoCal Growth Forecast is an assessment of the most likely future pattern of growth given, among other factors described above, the availability of zoned capacity. This contrast is further attenuated since the legislative changes of 2018 have resulted in a 6th Cycle RHNA regional determination which includes significant new measures of “existing need.”

“Projected Need” Portion of the 6th Cycle RHNA

The “projected need” portion of the 6th Cycle RHNA is derived from the Connect SoCal Growth Forecast. Specifically, the Connect SoCal Growth Forecast projects 469,725 additional households in the SCAG region over 2021-2029 (Growth Forecast prorated for the 8.25-year RHNA planning period). After subtracting an estimate of household growth occurring on tribal lands (2,767), the remaining 466,958

households represent occupied housing units, to which two adjustment factors are added: vacancy need (14,467 units) and replacement needs (23,545 units) to yield a total of 504,970 housing units reflecting “projected need” for the 6th Cycle RHNA.

Table 9.0-2
Relationship between Regional Forecasted Households and RHNA “Projected Need”

Projected Household Growth, 7/2021 – 10/2029	469,725
Tribal Land Growth Estimate	-2,767
Vacancy Need	+14,467
Replacement Need	+23,545
Housing Unit Need to Accommodate Projected Growth (“Projected Need”)	504,970

Since only occupied housing units (households) generate travel demand, they are the primary focus of Connect SoCal’s analysis. Additional housing units (to account for vacancy need and replacement need) associated with this household projection will be accommodated by local jurisdictions within the same areas.

Connect SoCal identifies areas within the SCAG region sufficient to house all the population in the region, including the projected population growth of 3.7 million and household growth of 1.6 million through 2045, the plan horizon year (see Table 5 in the Sustainable Communities Strategy (SCS) Technical Report and Table 13 of the Demographics & Growth Forecast Technical Report). The same areas sufficient to accommodate all the region’s household growth through 2045 will also be sufficient to accommodate the eight-year projection or the “projected need” portion (504,970 units) of the 6th Cycle (2021- 2029) RHNA.

Accordingly, Connect SoCal meets state planning law requirements, specifically Government Code 65080(b)(2)(B)(ii) and (iii) which require that Connect SoCal’s Sustainable Communities Strategy shall:

- (ii) Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth
- (iii) Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584

“Existing Need” Portion of the 6th Cycle RHNA

In accordance with Government Code Section 65080(b)(2)(B)(iii), as discussed above, Connect SoCal’s SCS identifies areas within the region sufficient to house an eight-year *projection* of the RHNA need, meaning the “projected need” portion (504,970 units) of the 6th Cycle (2021- 2029) RHNA. State planning law does not explicitly require the SCS to identify areas in the region sufficient to house the “existing need” portion of the RHNA. Additionally, for the reasons discussed in this section, existing need could not be reflected within Connect SoCal or the PEIR.

In HCD’s January 13, 2020 letter finding that SCAG’s draft RHNA methodology furthered the statutory objectives of RHNA, HCD identifies the “existing need” as 836,857 units which equals the total regional housing need (1,341,827 units) minus the projected need (504,970 units). The existing need primarily reflects regional measures of overcrowding, cost burden and vacancy.

The 6th Cycle RHNA allocation at the jurisdiction level will not be finalized until October 2020 following an appeals process which may result in changes of to the RHNA at the jurisdictional level. Following adoption of SCAG’s Final RHNA allocation in October 2020, local jurisdictions must update their housing elements (as needed) to provide sufficient zoned capacity for the total 6th Cycle allocation pursuant to state guidelines. Updated housing elements are due in October 2021. The updated housing elements must identify specific locations where potential new housing can be accommodated. Pursuant to Government Code Section 65583(c)(1)(A), local jurisdictions will have until January 2025 to complete any necessary rezoning to accommodate their RHNA allocation. Until this planning work is done at the local level, it would be speculative for Connect SoCal to make assumptions about potential development levels and patterns that includes the 6th Cycle “existing need.” As a result, it would be speculative for the PEIR to make assumptions about the environmental effects of these units.

As discussed above, SCAG’s RTP/SCS Growth Forecast process always incorporates extensive input and data including the most up-to-date local land use information, policy responses, demographic, and economic data in order to determine the most likely future pattern of regional growth. As such, the information necessary to assess the feasibility, quantity, and location of additional household growth stemming from the 6th Cycle of RHNA’s “existing need” allocation will not be available until October 2021 at the earliest and likely later than that for some jurisdictions. Additionally, the identified “existing need” portion of the 6th Cycle RHNA does not impact the region’s projected population, used in the SCS and evaluated in the PEIR, as the “existing need” addresses additional latent housing needs in the existing population rather than implying future population growth. For these reasons, the “existing need” cannot be reflected in Connect SoCal.

However, SCAG will allocate total regional housing need (“existing need” and “projected need”) consistent with the SCS. SCAG’s adopted RHNA methodology for allocating “existing need” focuses on transit and job access (i.e., assign 50% based on jurisdiction’s share of the region’s population within HQTAs and 50% based on a jurisdiction’s share of the region’s jobs that can be accessed within a 30-minute commute) which is aligned with the strategies and policies underlying the regional development pattern in the SCS. As such, in compliance with Government Code section 65584.04(m)(1), SCAG will allocate the “existing need” (as well as the “projected need”) as part of the total RHNA determination, consistent with the development pattern in the SCS.

RHNA is not a Cumulative Project under CEQA

The PEIR evaluates reasonably foreseeable regional growth as identified in the Connect SoCal Growth Forecast and forecasted development patterns reflected in the SCS. The RHNA is not a separate cumulative project under CEQA. The RHNA provides housing need information for the same geographic area as the SCS and a portion of the same time frame as the SCS (the RHNA addresses the first eight years of the SCS 25-year planning timeframe). As indicated in the discussion above, local jurisdictions have not yet had the opportunity to review their housing allocations and assimilate that information into their planning process. Once local housing elements are updated to accommodate the identified housing need, a new growth forecast can be prepared. Without the revised housing elements followed by an updated Growth Forecast, the identified housing need remains only speculative in terms of what may reasonably be expected to be constructed and therefore, is not appropriate for analysis within the PEIR (including as an alternative).

Pursuant to Government Code section 65584(g), RHNA determinations made by HCD and SCAG are specifically exempt from CEQA:

“(g) Notwithstanding any other provision of law, determinations made by the department, a council of governments, or a city or county pursuant to this section or Section 65584.01, 65584.02, 65584.03, 65584.04, 65584.05, 65584.06, 65584.07, or 65584.08 are exempt from the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).”

This has always been the case, since the original adoption of the housing element law (SB 1282) in 1989. “Determinations made by the department, a council of governments, or a local government pursuant to this section are exempt from the provisions of the California Environmental Quality Act, which is provided for in Division 13 (commencing with Section 21000) of the Public Resources Code.”

The *CEQA Guidelines* also codified this provision in 1989: “CEQA does not apply to regional housing needs determinations made by [HCD], a council of governments, or a city or county pursuant to Section 65584 of the Government Code.” (*CEQA Guidelines* § 15283). It was later also included as a statutory exemption pursuant to CEQA Guidelines section 15282(r) (“Determinations made regarding a city or county’s regional housing needs as set forth in Section 65584 of the Government Code.”).

The RHNA requires MPOs to determine the share of the total regional housing needs borne by a city or unincorporated areas of counties for all economic sectors of housing and to ensure that sufficient zoning capacity is made available to meet this need. This is a planning exercise that does not result in physical impacts to the environment. Once the allocation is addressed in a jurisdiction’s housing element, the revised housing element is then subject to CEQA review either on its own or as part of a general plan. The housing element of a general plan must identify actions that will be taken to make sites available to accommodate the local government’s allocated share of the regional housing need. According to Govt. Code sec. 65583(c)(1): “To achieve the state’s housing objectives, the law requires each local jurisdiction to zone adequate numbers of sites to accommodate the regional housing burden allocated to it, so that every local jurisdiction shares in the obligation to accommodate the statewide housing need.” (*San Franciscans for Livable Neighborhoods v. City and County of San Francisco*, 26 Cal. App. 5th 596, 610 (2018)).

Finally, as discussed above, the PEIR evaluates reasonably foreseeable growth from 2019 to 2045. The PEIR already evaluates a large amount of growth at a programmatic regional level and identifies significant impacts for most topical areas. While accommodating additional growth may not change the findings of significant impacts identified in the PEIR, the modeling results would likely change. Nevertheless, without advance knowledge of the distribution of regional population and household growth reflecting also existing need and whether, when, and how these housing new units would be constructed, such an analysis is infeasible and would be entirely speculative at this time.

Master Response No. 8: Alternatives

The formulation of Connect SoCal has been guided by several engagements over the last several years with regional stakeholders, including the involvement of thousands of Southern Californians through one-on-one local data review sessions with jurisdictions, regional planning working groups, outreach to traditionally underrepresented groups through community-based organizations, and numerous public workshops. Plan refinements are based on the Connect SoCal’s Final Growth vision, which reflect jurisdictional-level input on future development received from towns, cities, and counties. To help the region achieve sustainable outcomes, Connect SoCal’s Final Growth Vision will focus growth within jurisdictions near destinations and mobility options, and promote an improved jobs-housing balance to reduce commute times. This is reflective of Connect SoCal’s Core Vision: to build upon and expand land

use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern.

SCAG developed three alternatives for analysis in the PEIR. Each alternative consists of a transportation network element and a land use pattern element and is aligned in part with the scenarios for developing the Plan (See Section 2.0, Project Description, for further details). The following alternatives are evaluated:

1. No Project Alternative
2. Existing Plans-Local Input Alternative
3. Intensified Land Use Alternative

The No Project Alternative is aligned with the Trend/Baseline Scenario, while the Existing Plans-Local Input Alternative is aligned with the Existing Plans-Local Input Scenario. The Intensified Land Use Alternative incorporates the Plan's transportation network and land use strategies from the accelerated tomorrow scenario.

SCAG did not identify additional alternatives that were rejected. As such, three alternatives were identified for comparative analysis: The No Project Alternative and two other potentially feasible RTP/SCS alternatives, one that increases greenfield development (Existing Plans-Local Input Alternative) and one that places additional emphasis on infill development and transit (Intensified Land Use Alternative).

The No Project alternative, required to be analyzed under CEQA, assumes the projected land use pattern and planned transportation improvements would be consistent with those set forth in the 2016 RTP/SCS and that investments would cease beyond what is currently programmed. The two other alternatives allow for analysis variation in projected land use pattern and planned transportation improvements that could realistically be expected to occur over the Plan horizon. The alternatives reflect different growth patterns and different investment decisions for the transportation system.

Each of the alternatives and the Plan is based on local input. The growth patterns for the Plan, No Project and Existing Plans-Local Input alternatives are all consistent with adopted general plans and zoning. The Intensified Land Use alternative increases density beyond existing general plans.

A more detailed description of each of these alternatives, followed by a comparative analysis of how well the alternative would achieve the project objectives and the relative level of environmental impact associated with each alternative as compared to implementation of Connect SoCal is provided in Section 4.0, Alternatives.

9.3 RESPONSES TO COMMENTS RECEIVED ON THE DRAFT PEIR

Numbered responses to each comment received are provided followed by the original bracketed comment letters. Individual comments within each letter are numbered and the response is given a matching number.

Letter SOV 1: Santa Ynez Band of Chumash Indians Tribal Elders' Council

Tribal Elders' Council Governing Board

P.O. Box 517

Santa Ynez, CA 93460

December 27, 2019

Response SOV 1-1

The comment indicates that the Santa Ynez of Chumash Indians does not request any additional consultation. No additional response is required.

Letter SOV-2: San Manuel Band of Mission Indians

Jessica Mauck
Cultural Resources Analyst
26569 Community Center Drive
Highland, CA 92346

January 6, 2020

Response SOV 2-1

The commenter identifies updated acreages for the San Manuel Reservation. See **Chapter 10.0, Corrections and Additions**, for this revision made to Section 3.11, Land Use and Planning (p 3.11-21).

Letter FED 1: U.S. Environmental Protection Agency Region IX

Debbie Lowe Liang
Environmental Review Section (ENF-4-2)
75 Hawthorne Street
San Francisco, California 94105
415-947-4155

January 23, 2020

Response FED 1-1

This comment is a set of general introductory remarks restating the role of the U.S. EPA and its support of SCAG's goals. It presents no environmental issues within the meaning of CEQA and no specific response is required. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the proposed project.

Response FED 1-2

For responses related to the Connect SoCal Plan, please refer to Submission ID 0001464 of the Final Connect SoCal Plan.

Response FED 1-3

The comment includes a suggestion to add the SCAG EJ Toolbox as a suggested resource in relevant project-level mitigation measures. As project-level measures are anticipated to be implemented by the local jurisdiction, SCAG has added the EJ Toolbox as a resource for project level mitigation measures for air quality, greenhouse gas, and noise. See **Chapter 10.0, Corrections and Additions**, for revisions to Section 3.3, Air Quality (p 3.3-67) (new measure aa) and Section 3.8, Greenhouse Gases (p 3.8-72) (new measure k) and to Section 3.13, Noise (p 3.13-39) (new measure y).

Response FED 1-4

For responses related to the Connect SoCal Plan, please refer to Submission ID 0001464 of the Final Connect SoCal Plan.

Response FED 1-5

The comment requests additional information regarding the proposed Southern California Disadvantaged Communities Planning Initiative described in SMM AQ-1 including entities that would participate, potential eligibility criteria and the community engagement strategy. A significant challenge to the development and implementation of the RTP/SCS is the lack of comprehensive countywide and local active transportation plans which serve as the basis for regional active transportation planning. SCAG aims for all local jurisdictions to have high-quality, local active transportation plans as inputs to the regional planning process. The Southern California Disadvantaged Communities Planning Initiative

plays a critical role in achieving this goal by providing funding to develop a low-cost, high-impact model which leverages SCAG's staff, data, and outreach resources to deliver context-sensitive plans in high-need, low-resourced cities and unincorporated areas. Once developed, those plans can be integrated into existing and emerging regional active transportation infrastructure and frameworks. As part of the project, this model will be operationalized through the development of plans in seven communities and refined to provide a sustainable resource for SCAG staff to partner with local agencies to develop local active transportation plans.

Plan development is guided by robust community engagement, including the development of a Community Advisory Committee informing the direction of planning efforts (comprised of City staff, non- profits and community members), website development, community trainings, bicycle and pedestrian counts, a Living Preview Go Human Demonstration Event and feedback opportunities, artistic feedback installations, as well as postcards and web and print communications.

The following jurisdictions are included in SCAG's Disadvantaged Communities Active Transportation Planning Initiative: City of Stanton, City of Calipatria, City of Santa Fe Springs, Unincorporated Saticoy, City of Perris, City of Highland, City of Adelanto.

Jurisdictions were selected based on Disadvantaged Community scores, using the following criteria: SB 535/CalEnviroScreen Score, Environmental Justice Area Score, Communities of Concern Score, Native American Tribal Lands Score, and Median Income Score. Outreach was conducted with County Transportation Commissions to further refine priorities and staff assessed jurisdiction interest and capacity to participate in the initiative.

SCAG will extend our coordination with the U.S. EPA if it wishes to participate in the Southern California Disadvantaged Communities Planning Initiatives.

Regarding the commenter's recommendations on PMM-AQ-1(q), the measure has been revised. See **Chapter 10.0, Corrections and Additions**, for revisions to page 3.3-67 of Section 3.3, Air Quality. Regarding PMM-AQ-1(o), the measure already requires a traffic plan to "minimize traffic flow interference from construction activities" and "minimize obstruction of through-traffic lanes."

Response FED 1-6

The comment supports the robust set of mitigation measures provided in Section 3.8, Greenhouse Gases, and encourages the consideration of measures including in PMM GHG-1 in environmental justice communities. The mitigation measures included in the PEIR should be applied as applicable and feasible in all communities. Please see **Chapter 10.0, Corrections and Additions**, for revisions to page 3.8-72 of Section 3.8, Greenhouse Gas Emissions. New measure “k” encourages project sponsors to use the EJ Toolbox for potential measures to address impacts specific to low income/minority communities.

Response FED 1-7

The EPA requests a copy of the Final Plan and Final PEIR. Commenter will receive notice of the availability of the Final Plan and Final EIR and scheduled actions on the Connect SoCal Plan and PEIR.

Letter STA 1: California Department of Transportation

Paul Albert Marques
Deputy District Director for Planning
District 7
100 S. Main Street, Suite 100
Los Angeles, CA 90012

January 23, 2020

Response STA 1-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001549-0001553* of the Final Connect SoCal Plan.

Response STA 1-2

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001549-0001553* of the Final Connect SoCal Plan.

Response STA 1-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001549-0001553* of the Final Connect SoCal Plan.

Response STA 1-4

The commenter requests that the hyperlink in footnote 75 (page 3.17-55) be corrected to remove “on October 25” from the clickable hyperlink. See **Chapter 10.0, Corrections and Additions**, for revisions to page 3.17-55 of Section 3.17, Transportation Traffic and Safety.

Response STA 1-5

The commenter requests clarification as to whether the discussion of the regional HOV system and park and ride system (Section 3.17, Transportation Traffic and Safety, page 3.17-8) includes High Occupancy Toll (HOT)/express lanes. The discussion of the regional HOV system including the identification of vehicle miles in Table 3.17-6 does include HOT/express lanes. However, there are an additional 160 miles of HOT lanes.

Response STA 1-6

The commenter identifies a potential location for a wildlife crossing at Conejo Grade around Camarillo and Thousand Oaks that should be looked at. The PEIR does not identify specific wildlife crossing locations, but Mitigation Measure PMM BIO-4 (m) and (n) does include wildlife crossings and fencing as potential mitigation:

“(m) Evaluate the potential for installation of overpasses, underpasses, and culverts to facilitate wildlife movement in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Provide wildlife crossings in accordance with proven standards, such as FHWA’s Critter Crossings or Ventura County Mitigation Guidelines and in consultation with wildlife corridor authorities.”

and

“(n) Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.”

Mitigation Measure PMM BIO-4 identifies a number of wildlife mitigation strategies that lead agencies could use to mitigate impacts on wildlife.

Response STA 1-7

The commenter suggests that SCAG, Metro and Caltrans should fund projects that will improve culverts for wildlife use in rural areas of Ventura County. SCAG does not have authority to mandate agencies to fund specific mitigation measures and SCAG does not have project authority to impose mitigation measures.

Response STA 1-8

The commenter identifies additional possible wildlife crossings. See **Response STA 1-6**.

Response STA 1-9

The commenter identifies the need for fencing and habitat connectivity at a specific location. See **Response STA 1-6**.

Response STA 1-10

The commenter identifies the need for habitat connectivity at a specific location. See **Response STA 1-6**.

Response STA 1-11

The commenter indicates that access to parks and open space needs to be improved and suggests that buses at discount rates be provided to take people from the inner-city. Mitigation measure PMM REC-1 includes increasing the accessibility to natural areas and lands. SCAG does not have authority to mandate that agencies fund specific mitigation measures and SCAG does not have project authority to impose mitigation measures.

Response STA 1-12

The commenter indicates that beyond light rail and other transportation projects, agencies located in downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute. SCAG does not have authority to mandate agencies to fund specific mitigation measures and SCAG does not have project authority to impose mitigation measures. Mitigation Measure PMM TRA-1 includes a number of Transportation Demand Management (TDM) strategies – alternative working hours and telecommuting can also help reduce VMT that would be appropriate mitigation for individual projects to include.

Response STA 1-13

The commenter indicates that Cal-Fire should have fire education for areas in cities that border open spaces and that training should be given to volunteers. Mitigation Measure PMM WF-1 (a) includes, “Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition. SCAG does not have authority to mandate agencies to fund specific mitigation measures and SCAG does not have project authority to impose mitigation measures on other agencies.

Response STA 1-14

The commenter suggests that SCAG encourage cities to capture and treat rainwater and release it in to dry ravines. SCAG does not have authority to mandate agencies to fund specific mitigation measures and SCAG does not have project authority to impose mitigation measures on other agencies. SCAG does have a Sustainability Program that is described in Mitigation Measure SMM USWS-1 and includes land use strategies that result in “Improved water quality, groundwater recharge and watershed health.” Mitigation measures have been revised to include strategies for stormwater and rainwater collection, infiltration, treatment and release. See **Chapter 10.0, Corrections and Additions**, for revisions to page 3.19.3-20 of Section 3.19.3, Utilities and Service Systems.

Letter STA 2: California High Speed Rail Authority

Margaret (Meg) Cederoth
Director of Planning and Sustainability
California High Speed Rail Authority
770 L Street, Suite 620
Sacramento, CA 95814

January 23, 2020

Response STA 2-1

The commenter provides introductory text. No specific response is required.

Response STA 2-2

For responses related to the Connect SoCal Plan, please refer to Submission ID 0001442 of the Final Connect SoCal Plan.

Response STA 2-3

The comment suggests Appendix 2.0 List of Plan Project be updated to reflect project costs for California High-Speed Rail Phase 1 system to \$38.96 billion. Revisions have been made to the Plan, please refer to the revised Connect SoCal Project List.

Response STA 2-4

The comment suggests Appendix 2.0 List of Plan Projects be updated to remove California High Speed Rail Phase 2 ENV/PE be removed from the financially constrained project list. Revisions have been made to the Plan, please refer to the revised Connect SoCal Project List.

Response STA 2-5

The commenter provides contact information. No specific response is required.

Letter REG 1: John Wayne Airport

Lea U. Choum, Planning Manager
John Wayne Airport
3160 Airway Avenue
Costa Mesa, CA 92626

January 23, 2020

Response REG 1-1

This comment is a set of general introductory remarks restating the role of the John Wayne Airport, its participation in the RTP process as well as detailed to specific data submitted to SCAG by JWA. It presents no environmental issues and no specific response is required. The comment will be included as part of the record and forwarded to decision makers for their consideration in taking action on the Plan. No specific response is required.

Response REG 1-2

The comment suggests specific edits to Appendix 3.13 Aviation Noise Technical Report. Page 12 of Appendix 3.13 is revised to reflect to reflect the location of single-family land uses. See **Chapter 10.0, Corrections and Additions**, for Appendix 3.13 page 12 and 15.

Response REG 1-3

The comment suggests specific edits to Appendix 3.13 Aviation Noise Technical Report. Page 15 of Appendix 3.13 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 12 and 15.

Response REG 1-4

The commenter provides contact information. No specific response is required.

Letter REG 2: South Coast Air Quality Management District

Wayne Nastri, Executive Officer
South Coast Management District
21865 Copley Drive
Diamond Bar, CA 91765

January 24, 2020

Response REG 2-1

This commenter provides introductory remarks and references detailed comments below. No specific response is required. Individual comments are responded to below.

Response REG 2-2

The comment refers to detailed comments on the Connect SoCal Plan attached to the letter with respect to the attainment challenge and the need for a new detailed approach to goods movement. For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001483, 0001506, and 0001515* of the Final Connect SoCal Plan.

Response REG 2-3

This comment provides a general summary of the comments below regarding potential under-estimated air quality impacts and use of SCAQMD's threshold for health risk assessment, these comments are responded to in detail below.

Response REG 2-4

The SCAQMD states that the agency will work collaboratively with SCAG to implement the Plan. No specific response is required.

Response REG 2-5

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001483, 0001506, and 0001515* of the Final Connect SoCal Plan.

Response REG 2-6

The comment introduces Attachment 2 of the SCAQMD comment letter, which includes comments to the Draft PEIR. No specific response is required.

Response REG 2-7

The comment summarizes the Plan and anticipated growth within the region. No response is required.

Response REG 2-8

The commenter summarizes their concern that the Draft PEIR incorrectly compared on-road mobile source emissions for the existing conditions without the proposed project (2019) and the future conditions with the proposed project (2045) to determine significance. Commenter indicates that as a result, the emission reductions anticipated to occur independently of the Plan as a result of adopted state and federal regulations are improperly credited to the Plan. See **Response REG 2-18** for a comprehensive response to the issues raised in this summary comment. See also **Master Response 3 Baseline Conditions**.

Response REG 2-9

The commenter summarizes their concern that the Draft PEIR fails to compare the SCAQMD's portion of on-road mobile source emissions to the SCAQMD's regional significance thresholds to determine significance. See **Response REG 2-19** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-10

The commenter summarizes their concern that the air quality analysis in the Draft PEIR included two analysis years: baseline (2019) and buildout year (2045). The SCAQMD recommends that interim analysis years (2020, 2030, and 2035) also be included within the analysis. See **Response REG 2-20** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-11

The commenter summarizes their concern that the Draft PEIR discusses the SCAQMD's 2016 AQMP's forecasted emissions but did not quantify emissions from implementing Connect SoCal's transportation strategies for off-road emissions or land use strategies. The commenter asserts that since greenhouse gas (GHG) emissions were quantified for off-road vehicles, building energy, and water-related energy consumption, the air quality analysis is inconsistent with the GHG analysis and off-road emissions should be quantified. See **Response REG 2-21** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-12

The commenter summarizes that the Draft PEIR failed to evaluate a scenario where construction activities overlap with operational activities. See **Response REG 2-22** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-13

The commenter summarizes their concern that the Draft PEIR's health risk analysis failed to utilize the SCAQMD's CEQA significance threshold of 10 in a million. See **Response REG 2-23** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-14

The commenter summarizes their recommendations regarding providing more information on the implementation and monitoring of Tier 4 construction equipment mitigation. See **Response REG 2-24** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-15

The commenter summarizes their recommendations that SCAG include additional project-level mitigation measures to reduce on-road mobile source emissions. See **Response REG 2-25** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-16

The commenter summarizes their recommendations that SCAG include project-level mitigation measures for off-road mobile sources. See **Response REG 2-26** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-17

The commenter summarizes their concern that the Draft PEIR fails to include a discussion on how to disclose health risks and reduce exposures when new sensitive land uses are sited within 500 feet of freeways and recommends that the Draft PEIR include a discussion on the mobile source HRA analysis and health risk reduction strategies. See **Response REG 2- 27** for a comprehensive response to the issues raised in this summary comment.

Response REG 2-18

The comment suggests that the use of 2019 as the CEQA baseline to compare emissions to the Plan buildout in 2045 may have led to an underestimation of the air quality impacts resulting from Plan implementation and incorrectly assigns reduction credit of air emissions anticipated to occur independently of the Plan as a result of adopted state and federal regulations to the Plan. The SCAQMD recommends that the Draft PEIR compare emissions with and without the proposed project in interim analysis years and at full project buildout.

SCAG is responsible for providing a blueprint for transportation projects and land use development in the six-county region through the horizon year of 2045. Connect SoCal is a planning document that supports a combination of transportation and land use strategies to achieve reductions in emissions. As noted in the PEIR, on-road vehicle emissions are anticipated to decrease by the horizon year (2045). These reductions can be attributed to CARB regulations and efforts at implementing cleaner fuel standards and promoting lower emitting vehicles (CARB regulatory measures are listed on Section 3.3, Air Quality, [p 3.3-39 to 3.3-42]). The emission reductions from CARB regulations would occur regardless of the Plan. Evaluating a 2045 baseline condition in which only air quality reductions that can be attributed to the Plan, as recommended by the SCAQMD, would not provide valuable information to the public as the Connect SoCal Plan cannot be separated from any future scenario. The Plan does not take credit for any air quality rules, regulations, or technologies but includes them within the future year reductions as these controls cannot be separated from future emissions. Similarly, the EIR cannot separate out all emissions anticipated to occur only as a result of the Plan and compares all emissions in the future to all emissions occurring under existing conditions, thus providing a conservative analysis. For informational purposes the PEIR also compares future conditions with the Plan to future conditions without the Plan. Note that the emission results reported in the PEIR have accounted for the impact of the federal SAFE Vehicles Rule Part I.

The commenter recommends that SCAG revise the air quality analysis to calculate emissions in years 2020, 2030, and 2035 (GHG analysis years) with the Plan and emissions in those years without the Plan. See **Response REG 2-20** for a detailed response to the SCAQMD's recommendation regarding analysis of interim years between now and the Plan horizon year (2045).

Response REG 2-19

The commenter indicates that the PEIR should have compared the SCAQMD's portion of on-road mobile source emissions to the SCAQMD's regional thresholds in order to determine significance.

SCAQMD's thresholds were derived to apply to individual projects and not entire plan-level impact assessments. This is evident from their use in the SCAQMD's *1993 CEQA Thresholds Guide*, which

includes screening tables for individual land use development. Although the screening tables are obsolete because they were based on outdated emission factors, it is clear that the thresholds were intended to apply to specific projects. The SCAQMD has not developed thresholds more relevant to plan-level documents and, as a result, the thresholds are not appropriate for this type of analysis. Review of approved projects within the SCAQMD's jurisdiction demonstrates that these emission thresholds were used for specific land use development projects. The SCAB is approximately 4.2 million acres. Using the same thresholds for a single project covering a few acres and a regional transportation plan covering the entire SCAB region is not reasonable.

Rather than use thresholds appropriate to individual projects, the PEIR uses any increase in criteria pollutant emissions as the threshold of significance for the SCAG region. (This threshold is thus lower than SCAQMD's project thresholds.) This threshold is appropriate because of the large reductions in emissions anticipated to occur as a result of the state and federal emission controls previously discussed. Section 3.3, Air Quality (p 3.3-61), summarizes the significance finding as follows:

While the SCAG region may see an increase in PM_{2.5}, PM₁₀ and SO_x emissions, the SCAQMD, AVAPCD, ICAPCD, and MDAQMD have not established regional thresholds to determine significance. The air districts within the SCAG region have only established project-level thresholds (see Table 3.3-9, Table 3.3-10, and Table 3.3-11). Therefore, individual projects must compare anticipated project emissions to the thresholds for the air district within which they are located in order to determine significance on the project-level. Because mobile source emissions of PM₁₀ and PM_{2.5} will increase (PM₁₀ would increase in Imperial, Orange, Riverside, and San Bernardino Counties and PM_{2.5} would increase in Imperial, Riverside, and San Bernardino Counties), largely as a result of increased total VMT, and SO_x would increase in the region at least through 2031, the Plan could contribute to an air quality violation. Further, there is the potential for individual projects to exceed local standards during construction and/or operation for several pollutants. Therefore, this impact is considered to be significant.

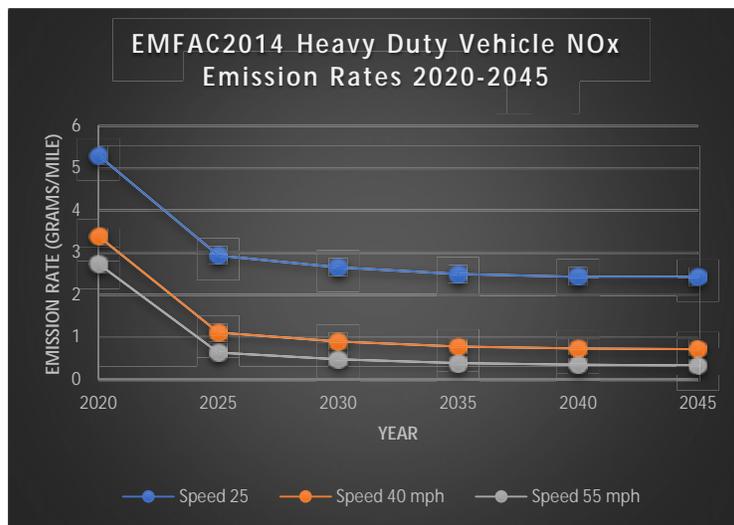
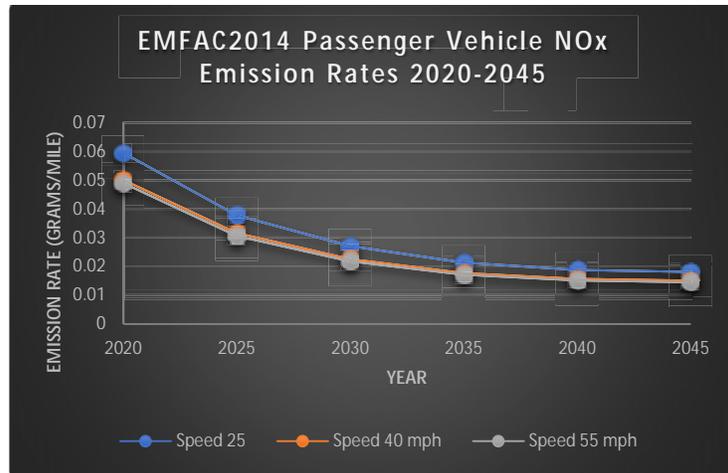
Response REG 2-20

The commenter indicates that the PEIR should have evaluated interim years of project implementation (2020, 2030, and 2035) to ensure that peak emissions are captured. Typically, an interim year analysis is undertaken for certain types of land use development projects that have known increments of development (e.g., a master plan with an identified number of residences to be constructed in specifically identified 5-year increments). However, for the Plan, the anticipated timing of new transportation and land use development projects is uncertain; the PEIR discloses reasonably expected development at the horizon of 2045. SCAG has a long-standing partnership with the SCAQMD and would welcome the opportunity to work with the air district to better align the AQMP with the Plan and PEIR.

GHG emissions were estimated for 2020 and 2035 because of the regulatory requirements to meet specific targets in these years. However, some assumptions had to be made regarding energy consumption rates, emission rates, etc. in order to provide best effort at emission estimates for these years. As explained in the GHG analysis methodology, “[w]hile the analysis considers regulations, programs, and policies currently in place, there is substantial uncertainty in projecting emissions for future horizon years.” (see Section 3.3, Air Quality (p 3.8-60)). Also, “as noted in the discussion above, the analyses of GHG emissions sources presented herein, even for transportation, do not fully take into account changes to fuels and technology that are expected to substantially reduce emissions compared to what is presented here.” Presenting such an analysis of GHGs allows for comparison of GHG emissions based on different types of development (MF housing is more efficient than single-family housing), so the analysis illustrates that the land use strategies reduce emissions, but the analysis does not provide a reasonable estimate of emissions because of the uncertainties.

The proposed transportation and anticipated land use development projects are spread across the entire six county region representing SCAG. The shorter the time increment of forecasts the less reliable they become. Economic cycles dramatically affect building and transportation and therefore regional-scale emissions. SCAG cannot reasonably anticipate if growth would be linear or sporadic between 2019 and 2045 or if the growth patterns would be similar across the entire region. Given the uncertainty in year-to-year growth, interim year emissions analyses are not useful.

On-road mobile source operational emission estimates were performed by SCAG, using EMFAC2014. (See **Master Response No. 4 Technical Process/Modeling** for discussion regarding the use of EMFAC2014) The emission rates built into the software account for incremental implementation of emission controls and fleet turnover, with emission rates substantially decreasing following the year 2020. As an example, the charts below show passenger vehicle and truck emission rates by year for NOx. The figures confirm the SCAQMD statement that the emission rates of vehicles, trucks, and equipment are generally higher in earlier years as more stringent emission standards and technologies have not been fully implemented, and fleets have not fully turned over. The emission rates sharply decline between 2020 and 2025 and then slowly decline between 2025 and 2045. Given the relatively small change in emission rates between 2025 and 2045, it is not anticipated that evaluating the Plan’s emissions in 2020, 2030, or 2035 would result in significantly different emission estimates than presented in Table 3.3-13, On-Road Mobile Source Criteria Air Pollutant Emissions by County – Existing Condition (2019) vs. Plan (2045). Characterizing an interim year scenario would not provide the public with any more valuable information than what is already presented.



Response REG 2-21

The commenter indicates that the PEIR inappropriately uses the SCAQMD’s 2016 AQMP forecasts of annual average off-road mobile emissions and stationary source emissions for years 2019, 2022, 2023, 2025, and 2031 in the Basin as a proxy for these emissions throughout the SCAG region. The SCAQMD states that the use of the 2016 AQMP forecasts is inappropriate.

CEQA does not require perfection, but rather adequacy, completeness, and a good faith effort at full disclosure. (See *CEQA Guidelines* § 15151). The forecasts contained in the AQMPs represent the best available information since SCAG is not responsible for, nor has expertise relevant to forecasting emissions from all the sources under the jurisdiction of the AQMPs.

SCAQMD indicates that the SCAQMD’s 2016 emissions are projections based on a 2012 base year therefore SCAG has discussed existing emissions but did not properly assess the incremental air quality impacts of direct emissions from implementing the Plan’s transportation strategies for off-road mobile

sources or land use strategies. Connect SoCal Plan is a ground-transportation plan and SCAG is responsible for evaluating on-road mobile source emissions from implementation of the Plan. Air quality management districts are responsible for evaluating future emissions from off-road and stationary sources. According to the 2016 AQMP Final PEIR,

At the regional level, the SCAQMD is responsible primarily for non-vehicular sources and has limited authority over mobile sources (e.g., fleet regulations, incentives for accelerated vehicle turnover, reduction in average vehicle ridership, etc.). In addition, the SCAQMD has lead responsibility for developing stationary, some area, and indirect source control measures and coordinating the development and adoption of the 2016 AQMP.²⁰

SCAQMD (and other air districts) provide forecasts (as appropriate and applicable) of emissions from these sources as part of the AQMP update process. SCAG relies on the AQMDs to provide these estimates. The Plan is not anticipated to substantially alter off-road mobile or stationary source emissions. The RTP/SCS and AQMPs are complementary documents that regulate different sources of air emissions.

The commenter indicates that the 2016 AQMP only projects emissions until 2031 which is inappropriate for evaluating the Connect SoCal Plan with a planning horizon until year 2045. As indicated above, the SCAQMD is responsible for evaluating emissions from off-road mobile and stationary sources. The 2016 AQMP evaluates these emissions through 2031 because at that point the region is forecast to meet attainment for the federal 8-hour ozone standard. Use of the SCAQMD AQMP information provides an indication of how emissions are expected to change over at least a portion of the Connect SoCal Plan timeframe. SCAG's analysis is qualitative but uses this information to inform the analysis.

The commenter indicates that since SCAG covers six counties and five air pollution control districts, using SCAQMD's 2016 AQMP emissions as a proxy for the region is incorrect as only a portion of the region's emission were evaluated. While, the SCAB region geographically makes up approximately 17.3% of the SCAG region, the SCAB region is home to over 17 million people.²¹ This is approximately 90% of the population in the SCAG region (based on the 2016 population). Furthermore, the SCAQMD includes all of Orange County, the majority of Los Angeles County, and the non-desert portions of Riverside and San Bernardino Counties. Looking at on-road mobile source emissions from just Los Angeles and Orange Counties from Table 3.3-13 demonstrates that these two counties represent approximately 66% of the SCAG area's annual ROG emissions, 57% of the SCAG area's annual NOx emissions, 68% of the SCAG

²⁰ SCAQMD. 2016. *2016 AQMP Final Program EIR*, see p. 2-7.

²¹ SCAQMD. *About*. Available online at: <http://www.aqmd.gov/nav/about>, accessed February 6, 2020.

area's winter CO emissions, and 66% of the SCAG area's annual PM10, PM2.5, and SOx emissions under existing conditions. The percentages of horizon year emissions generated in Los Angeles and Orange Counties compared to the SCAG region is similar to existing conditions. Therefore, since the majority of the population resides within the SCAB and the majority of emissions are generated within the SCAB, it was determined that the emissions identified in the 2016 AQMP would serve as a good proxy for the remaining portions of the region. In addition, a discussion of the stationary source and off-road mobile emissions from the VCAPCD, AVAQMD/MDAQMD, and the ICAPCD is included under Impact 2 of Section 3.3, Air Quality.

See **Chapter 10.0, Corrections and Additions**, for the following changes: 1) Information regarding the VCAPCD, AVAQMD/MDAQMD, and the ICAPCD's forecasted annual average emissions from their respective AQMPs is added to Section, 3.3, Air Quality (p 3.3-55 to 3.3-59); 2) Information regarding off-road mobile source emissions forecasted from these AQMPs is added to Section 3.3, Air Quality (page 3.3-61 to 3.3-63.; 3). Information regarding stationary source emissions forecasted from these AQMPs is added to Section 3.3, Air Quality (page 3.3-64 to page 3.3-66. 4). Information summarizing the forecasted annual average emissions from these AQMPs is added to page 3.3-69.

The commenter indicates that quantifying air quality emissions, emissions from both construction and operations should be calculated and SCAG should use its best efforts to identify and quantify a worst-case construction and operational air quality impact scenario. The SCAQMD further states SCAG should develop a construction scenario for land use development and quantify these emissions and compare the emissions to the air districts' regional air quality CEQA significance thresholds in order to determine significance. The Connect SoCal Plan includes a 25-year buildout for the 38,000 square mile SCAG region. At this time no more construction details are known and due to the size of the region and duration of the Plan, and as such, estimating a construction schedule for individual projects as well as the associated emissions would be speculative. Also, emissions from the equipment used for existing construction, will get cleaner over time and it is likely that total emissions associated with construction will decrease over the course the Plan. The PEIR provides a qualitative discussion of construction emissions, and as noted, "SCAQMD does account for estimated construction emissions from off-road construction equipment within the 2016 AQMP." See **Response REG-22** for a more detailed comment regarding the speculative nature of calculating these emissions. Moreover, as discussed in **Response REG 2-20**, the worst-case operational emissions will likely occur during the baseline year due to emission reductions for light-duty and heavy-duty trucks increasingly taking affect as time progresses.

The commenter recommends that SCAG quantify off-road vehicle emissions and add those emissions to on-road sources to determine the level of significance. As noted above, the SCAQMD states within the 2016 AQMP that the SCAQMD is responsible for non-vehicular sources and for developing stationary,

some area, and indirect source control measures. Review of the SCAQMD's 2016 AQMP Final PEIR demonstrates that on-road mobile source emissions were estimated based on SCAG's 2016-2040 RTP/SCS. However, the off-road emissions were estimated based on emissions inventories from CARB for off-road equipment which includes construction, mining, gardening and agricultural equipment, ocean-going vessels, commercial harbor craft, locomotives, and cargo handling equipment. The SCAQMD estimated aircraft operations with coordination with the local airport authorities. Thus, SCAG relies on SCAQMD's data for estimating off-road mobile source emissions and a discussion of these emissions based on the SCAQMD's 2016 AQMP is included within the Draft PEIR. Other air districts provide less information than SCAQMD; a discussion of off-road mobile source emissions from all air districts within the SCAG region based on available information is included in the PEIR (see Section 3.3, Air Quality (p 3.3-55 to 3.3-66)).

Response REG 2-22

The commenter indicates that since the Plan is expected to occur over a period of 20 years (actually 25 years), overlapping construction and operation impacts from transportation and land use projects is reasonably foreseeable and should be evaluated and compared to the SCAQMD mass daily thresholds for operations. The comment is based on the concept that when specific development is reasonably foreseeable, the Lead Agency should identify potential air quality impacts and sources of air pollution that could occur.

As discussed in **Response 2-21**, construction activity is occurring at present with construction equipment that has higher emissions rates than will occur in the future. Further as discussed in **Response 2-20**, specific development of individual projects (size, construction activity and timing) in the future is not reasonably foreseeable as there is no comprehensive timeline for individual projects within the six-county region. The anticipated timing of land use changes and new development is uncertain, especially over short time frames because of the effect of economic cycles, and therefore, the PEIR focuses on identifying reasonably foreseeable on-road mobile source emissions in the Plan's horizon year (2045), see Table 3.3-13, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition (2019) vs Plan (2045).

The exercise of estimating existing and future construction activity for purposes of estimating changes in emissions would be speculative and would involve evaluating the incremental increase in daily construction activity (i.e., specific inventories of equipment and haul trucks under existing conditions as well as with and without implementation of the Connect SoCal Plan in the horizon year as well as interim years) across the entire SCAG region. Without a comprehensive understanding of the schedules and sizes of individual projects, this exercise would not bolster the programmatic discussion of regional air quality

impacts that is already provided (See **Master Response No. 2 Program EIR vs Project EIR**). As discussed above, the AQMDs are responsible for regulating emissions from non-mobile sources as well as construction vehicles. The PEIR provides a qualitative discussion of construction emissions as well as total emissions based on SCAQMDs estimates of total emissions in the SCAB (through the year 2031) contained in the AQMP EIR.

Note that in recent publicly available plan-level environmental documents for projects within the SCAQMD jurisdiction, construction emissions were not quantified.²²

Response REG 2-23

The commenter indicates that the Draft PEIR's method of determining the significance of the health risk is incorrect. The Draft PEIR determined that the health risk posed to sensitive receptors near freeway segments would be less than significant due to the decrease in cancer risk from baseline emissions. The commenter asserts that the SCAQMD's CEQA significance threshold of 10 in a million should be used to determine significance.

Contrary to the commenter's statement, SCAQMD's cancer risk threshold was used to determine project impacts. The SCAQMD's thresholds state that the cancer risk threshold is "Maximum Incremental Cancer Risk \geq 10 in 1 million."²³ Review of Table 9, Maximum Exposed Individual Residential Cancer Risk for 30-Year Exposure in Appendix 3.3, Health Risk Technical Report, demonstrates that the incremental cancer risk from baseline conditions (2019) and Project Build-out (2045) will decrease at each segment and therefore will not exceed an incremental cancer risk of 10 in a million. Comparing baseline conditions (2019) and Project Build-out (2045) demonstrates that the cancer risks will be reduced from anywhere from 5.7 in a million (Segment 9) to 80.6 in a million (Segment 16). Therefore, since the incremental cancer risk does not exceed 10 chances in a million and actually decreases as compared to baseline emissions, the health risk posed to receptors near these heavily trafficked roadways remains less than significant. See also **Response REG 2-18** regarding the appropriate baseline for comparison of impacts.

²² Santa Monica Downtown Community Plan Draft EIR (2017) available at <https://www.smgov.net/Departments/PCD/Environmental-Reports/Downtown-Community-Plan-Program-EIR/>, Pomona General Plan Update and Corridor Specific Plan (2013) available at: https://www.ci.pomona.ca.us/mm/comdev/plan/pdf/GPUP-DEIR-Volume_I.pdf, San Pedro Community Plan Draft EIR (2012) available at <https://planning.lacity.org/development-services/eir/san-pedro-new-community-plan-0>, or were quantified but were not combined with operational emissions (e.g., South Glendale Community Plan Draft EIR (2017) available at <https://www.glendaleca.gov/government/departments/community-development/planning/community-plans/sgcp-eir>.

²³ SCAQMD. *South Coast AQMD Air Quality Management Thresholds*. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.

Response REG 2-24

The commenter recommends revisions to PMM-AQ-1 q) to provide more details on the requirement for Tier 4 construction equipment, provide guidance on project-level implementation and monitoring, and facilitate CEQA streamlining and tiering from the PEIR for subsequent, project-level environmental analyses. See **Chapter 10.0 Corrections and Additions** for changes to Section 3.3, Air Quality (p 3.3-67).

Response REG 2-25

The commenter provides a list of project-level mitigation measures to be included in the PEIR. See **Chapter 10.0, Corrections and Additions**, for changes to Section 3.3, Air Quality (p 3.3-67), and mitigation measures added to the PEIR.

The following suggested measures are not incorporated into the Final PEIR. An explanation is provided for each measure:

- Require zero-emissions (ZE) or near-zero (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet CARB's adopted optional NO_x emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter and 0.20 g/bhp-hr of NO_x emissions or newer, cleaner trucks. When requiring ZE or NZE on-road haul trucks, SCAG should include analyses to evaluate and identify sufficient power and supportive infrastructure available for ZE/NZE trucks in the Energy and Utilities and Service Systems Sections of the Final PEIR, where appropriate. To monitor and ensure ZE, NZE, or 2010 model year or newer trucks are used, require that operators maintain records of all trucks associated with the operation, and made these records available to SCAG upon request. The records will serve as evidence to prove that each truck called met the minimum 2010 model year engine emission standards. Alternatively, require periodic reporting and provision of written records by operators, and conduct regular inspections of the records to the maximum extent feasibly and practicable.

This suggested mitigation measure would require a massive turnover of the private on-road haul truck vehicle fleet from older engines to new zero-emissions or near-zero emission trucks. These trucks are not readily available across the SCAG region and not in the numbers that would support the intensity of construction activities that will occur under the Connect SoCal Plan and across the entire SCAG region. The SCAQMD already has rules that are relevant to certain vehicle fleets (e.g., Rule 1196 (Clean On-Road Heavy-Duty Public Fleet Vehicles) and the CARB has regulations applicable to truck emissions (e.g., Heavy-Duty (Tractor-Tractor) Greenhouse Gas Regulation).

- Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with CARB policy. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify

construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the site. To further ensure that drivers understand the vehicle idling requirement, post signs at the site, where appropriate, stating that idling longer than five minutes is not permitted.

Most construction projects located within the SCAG region are required to comply with SCAQMD 403 (Fugitive Dust), which ensures comprehensive control of fugitive dust emissions in the South Coast Air Basin. Restrictions on idling are already required²⁴ and PMM AQ-1 bullet (l) includes minimizing idling to 5 minutes to save fuel and reduce emissions.

- Require at least 5 percent of all vehicle parking spaces include electric vehicle (EV) charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in. Electrical hookups should be provided at the onsite vehicle stop for to plug in any onboard auxiliary equipment. Electrical panels should be appropriately sized to allow for future expanded use.

Mitigation Measure PMM GHG-1 (See Section 3.8, Greenhouse Gases) already includes reference to CALGreen including installing electric charging stations (bullet ix).

Response REG 2-26

The commenter provides a further list of project-level mitigation measures to be included in the PEIR to address off-road mobile source emissions. See **Chapter 10.0, Corrections and Additions**, for changes to Section 3.3, Air Quality (page 3.3-67) and mitigation measures added to the PEIR.

The following measure is not incorporated into the Final EIR.

- Encourage and incentivize aircraft operators to route the cleanest aircraft engines to serve the South Coast Air Basin.

As explained in the Connect SoCal Aviation and Airport Ground Access Technical Study, “as a metropolitan planning organization (MPO), SCAG by definition is primarily a regional surface transportation planning agency.” The following measure goes beyond the scope of SCAG’s authority and is not under SCAG’s jurisdiction. The SCAG region has seven commercial airports and 40 reliever, general aviation, and other public use airports. Three of these airports service not only domestic flights, but also international flights. SCAG is an MPO focused on surface transportation, as a result, does not have the authority to develop mitigation to encourage the cleanest aircraft to serve the SCAB region.

²⁴ The Diesel-Fueled Commercial Motor Vehicle Idling Airborne Toxic Control Measure (ATCM) was adopted in 2006 by the California Air Resource Board (CARB) to limit the idling of diesel-fueled commercial motor vehicles to reduce diesel emissions. See the following (accessed February 19, 2020):

<http://scap1.org/Air%20Reference%20Library/Comm%20Vehicle%20Idling%20Facts.pdf>
<https://ww3.arb.ca.gov/regact/hdvidle/hdvidle.htm>

Response REG 2-27

The commenter indicates that since implementation of the Plan would result in the development of new transportation projects near existing sensitive receptors or locating new receptors near transportation projects, a mobile source health risk analysis (HRA) should be performed to disclose the potential health risks for new sensitive land uses that will be sited within 500 feet of freeways or other sources of pollution.

As the commenter notes there have been a number of court rulings that emphasize that CEQA should address impacts of the project on the environment and not impacts of the environment on the project, the court found that in particular impacts of locating sensitive receptors near freeways is not a significant impact unless the project exacerbates the impact.²⁵ As discussed in the PEIR (summarized on Section 3.3, Air Quality (page 3.3-80)), health risk associated with mobile source emissions would decrease substantially over the timeframe of the Plan. See also **Response REG 2-18** regarding appropriate baseline. However, also as summarized on page 3.3-80 emissions from construction are considered significant as construction would occur where projects occur and would impact individual sensitive receptors. Since CEQA does not require evaluation of impacts of the environment on a project each lead Agency must determine how to best protect future residents in proximity to sources of TACs. As noted in the Section, 3.3, Air Quality (page 3.3-73):

Consistent with CARB recommendations, it is anticipated that local governments would limit growth within 500 feet of freeways and/or address potential health concerns through appropriate design requirements. For example, in the City of Los Angeles, all new mechanically ventilated buildings located within 1,000 feet of freeways are required to install air filtration media that provides a Minimum Efficiency Reporting Value (MERV) of 13. [See Los Angeles Municipal Code § 99.04.504.6.] In addition, properties within 1,000 feet of freeways are subject to an advisory notice regarding adverse health impacts resulting from chronic exposure to vehicle exhaust and particulate matter. ...

The HRA performed for the PEIR is summarized on Section 3.3, Air Quality (p 3.3-72 through 3.3-80), and presented in full in Appendix 3.3, Health Risk Assessment Technical Report. The HRA includes calculations of the cancer risks to the most impacted existing sensitive receptors (residential, worker, school, day care, and senior care facility) as a result of mobile-source emissions. The transportation segments were chosen based on the highest volumes of heavy-duty trucks and the proximity of sensitive receptors. The risks were calculated for receptors within 1,000 meters of the transportation segment, with the most impacted receptors being closest to the source of emissions. Since the sixteen segments analyzes

²⁵ California Supreme Court's decision in *California Building Industry Association v Bay Area Air Quality Management District*, (S213478, December 17, 2015) and California Court of Appeals decision in *California Building Industry Association v Bay Area Air Quality Management District*, (August 12, 2016).

are anticipated to have the highest heavy-duty truck volumes, the health risk analysis provides a conservative cancer risk estimate for receptors within 500 feet of a freeway.

The commenter also provides project-level mitigation measures to be included in the Final PEIR to address off-road mobile source emissions. See **Chapter 10.0, Corrections and Additions**, for changes to page 3.3-67 and mitigation measures added to the PEIR.

Response REG 2-28

The commenter requests detailed written responses to their comments and that statements be supported by factual information and that if changes to mitigation measures are found infeasible substantial evidence be provided for rejecting them. The commenter is referred to the responses above. See also **Master Response No. 2 Program EIR vs. Project EIR**.

Letter REG 3: Ventura County Air Pollution Control District

Nicole Collazo
Planning Division
669 County Square Drive
Ventura, California

January 23, 2020

Response REG 3-1

This comment provides introductory text summarizes the Connect SoCal project. No specific response is required.

Response REG 3-2

The comment suggests adding “motor vehicle” to the table heading. See **Chapter 10.0, Corrections and Additions**, for Section 3.3, Air Quality (p 3.3-19).

Response REG 3-3

The comment relates to air quality threshold b in the Appendix G checklist. While the specific question is not required under CEQA, lead agencies have discretion to use thresholds specific for their project. (See *CEQA Guidelines* Section 15064.7(b) “Lead agencies may also use threshold on a case-by case basis). In this case, the threshold “violate any air quality standard or contribute to an existing or projected air quality violation” was selected by SCAG as it affords an opportunity to disclose regional air quality impacts and the relationship to air quality standards. See also **Master Response 2: Program EIR vs. Project EIR**.

Response REG 3-4

The comment clarifies nonattainment status for SSAB. See **Chapter 10.0 Corrections and Additions** for Section 3.3, Air Quality (p 3.3-56).

Response REG 3-5

The comment updates information regarding Ventura County’s CAP. See **Chapter 10.0 Corrections and Additions** for Section 3.3, Air Quality (p 3.8-49).

Response REG 3-6

The comment suggests an edit to Table 3.8-4, California Jurisdictions Addressing Climate Change. See **Chapter 10.0, Corrections and Additions**, for Section 3.3, Air Quality (p 3.8-58).

Response REG 3-7

The comment provides details of the Thomas Fire that occurred in December of 2017 and burned 281,893 acres which was bigger than the Woolsey Fire (November 2018, burned 96,949 acres) discussed on page

3.8-67. The comment does not raise a new issue but rather provides information on another illustration of the issue already discussed in the PEIR. No specific response is required.

Letter SUB 1: Orange County Council of Governments

Stacy Berry, Chair
Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
Irvine, CA 92606

January 23, 2020

Response SUB 1-1

This comment is a set of general introductory remarks. It presents no environmental issues within the meaning of CEQA and no specific response is required. Individual comments are responded to below. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the proposed project.

Response SUB 1-2

This comment expresses support for comments from OCTA, TCA, and Center for Demographic Research. Commenter is referred to specific responses for those letters.

Response SUB 1-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Response SUB 1-4

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Response SUB 1-5

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Response SUB 1-6

The comment expresses opposition to PEIR alternatives that do not use local input. Commenter is referred to **Master Response No. 8 Alternatives**. As described in Chapter 4.0 Alternatives, of the PEIR, SCAG as the lead agency is required to develop a reasonable range of alternatives that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. In accordance with the *CEQA Guidelines*, the following factors may be used to eliminate alternatives from consideration by the lead agency: (1) failure to meet most of the basic project objectives; (2) infeasibility, or (3) inability to avoid significant environmental impacts. Generally, the alternatives represent a progression of land use and transportation investments, such that the Existing-Plans Local Input Alternative includes the most dispersed land use and fewest transportation investments and Intensified Land Use Alternative represents the most compact land use pattern but maintains the same transportation investments as the Plan. Connect SoCal falls in between these two alternatives. As stated above, all alternatives analyzed accommodate the same amount of regional growth as the Plan.

The Plan and Alternative 2 Existing Plans Local Input, both incorporate local input with respect to growth forecasts. As part of preparation of the Final Plan and Final PEIR the local input growth forecasts for the Plan have been refined to further reflect the wishes of local jurisdictions including input received to reflect existing development agreements, entitlements, and projects recently completed or under construction.

The comment also requests additional information on the datasets and RHNA methodology. See **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-7

The comment suggests SCAG avoid naming specific technologies in the Plan and PEIR. Please see **Master Response No. 1: General Comments and Non-CEQA Issues**. Where specific technologies are identified, they are used as examples of the types of technologies that could occur. In many instances, providing a name for a technology (i.e., Uber or Lyft) assists the reader in understanding the referenced technology; SCAG is not expressing a preference for these particular technologies. Commenter is also referred to **Master Response No. 5: Approach to Mitigation Measures** which clarifies that mitigation measures are intended to be flexible, as such any technology can be replaced with a comparable technology that achieves the same result.

Response SUB 1-8

The comment indicates that opinion, as well as dramatic and biased language should be removed from the PEIR. The PEIR is a factual unbiased document. No language is intended to be biased, or overly dramatic. The PEIR generally represents an overview of the science of a topic and presents it within the seriousness of the context. The comment and its associated attachment include specific suggested text changes. These changes are incorporated where appropriate. See **Responses SUB 1-17** through **SUB 1-65** and responses to **Letter ORG-9** from the Center for Demographic Research.

Response SUB 1-9

The comment suggests specific changes to all mitigation measures. Commenter is referred to **Master Response No. 5: Approach to Mitigation Measures**. Consistent with the provisions of § 15091(a)(2) of the *State CEQA Guidelines*, the scope of SCAG’s responsibility as a Lead Agency to identify feasible mitigation measures is described in Section 1.6 of the Introduction to the PEIR. Similarly, Section 1.6 of the Introduction to the PEIR describes the limits of SCAG’s authority and the discretion of Lead Agencies responsible for the consideration of approval of subsequent projects. Furthermore, SB 375 specifically provides that nothing in an SCS supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use policies and regulations, including their general plans, to be consistent with the SCS or an alternative planning strategy.²⁶ Moreover, cities and counties have plenary authority to regulate land use through their police powers granted by the California Constitution, art. XI, §7, and under several statutes, including the local planning law,²⁷ the zoning law,²⁸ and the Subdivision Map Act.²⁹ As such, SCAG has no concurrent authority/jurisdiction to implement mitigation related to land use plans and projects that implement the Plan. With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and not SCAG. SCAG also has no authority/jurisdiction to require these agencies to implement project-specific mitigation measures.

Regarding the request to delete “can and” from “can and should consider” in the project-level mitigation measures, see **Master Response No. 5: Approach to Mitigation Measures**.

²⁶ California Legislative Information. *Public Resources Code – PRC, Division 13. Environmental Quality, Chapter 2.5. Definitions [21060-21074]*.

²⁷ California Legislative Information. *Chapter 3. Local Planning 65100-65763*.

²⁸ California Legislative Information. *Chapter 4. Zoning Regulations 65800-65912*.

²⁹ California Legislative Information. *Division 2 Subdivisions 66410-66499.38*.

Regarding the recommendation to add “consider where applicable and feasible” to all mitigation measures, in the methodology for each technical section, there is the following paragraph which applies to all mitigation measures:

*The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743 or SB 226 (as described in Section 1.0 Introduction), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects **as applicable and feasible**. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.*

Consistent with CEQA requirements and the intent of SCAG, the PEIR does not require mitigation measures that are inapplicable or infeasible. Rather the PEIR presents options for projects that wish to use the PEIR for streamlining purposes. Mitigation measures are written in broad and general terms so that they may be tailored to project-specific circumstances and the judgment of local jurisdictions.

Response SUB 1-10

The comment relates to mitigation measures that overlap with regulations. Refer to **Master Response No. 5: Approach to Mitigation Measures**.

Response SUB 1-11

The comment suggests replacing the word “cities” with the word “jurisdictions” where appropriate. It is generally understood that the SCAG region includes both cities and counties, a sentence has been added to the Introduction to add “and counties” after the word “cities” See **Chapter 10, Corrections and Additions**, for Chapter 1.0, Introduction (p 1.0-3).

Response SUB 1-12

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan. The first use of an acronym in the PEIR is usually spelled out. Both the PEIR and Plan also include a glossary and many sections define technical terms at the beginning of each section (i.e., Section 3.3, Air Quality – Definitions).

Response SUB 1-13

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

SCAG has provided the corrected sources for the requested tables. See **Chapter 10 Corrections and Additions**.

Response SUB 1-14

The comment relates to measures that include new fees and/or taxes. Please refer to **Master Response No. 5: Approach to Mitigation Measures** as well as **Response 1-9** above which clarify that mitigation measures can be replaced with any comparable measure and are therefore not strictly required to be implemented as drafted. Lead agencies have the full discretion to apply those measures that are appropriate and feasible. The mitigation approach in this PEIR recognizes the importance of project-level mitigation measures to minimize project-level significant effects while maintaining flexibility for consideration and/or implementation by project-level lead agency. With respect to financing, fees and taxes, local lead agencies are responsible for drafting, implementing and developing a nexus study including documenting the anticipated effectiveness of a fee or tax.

Response SUB 1-15

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Response SUB 1-16

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Response SUB 1-17

The comment relates to the heading of the commenter's table and requires no response.

Response SUB 1-18

The comment relates to PEIR mitigation measures. Please see **Master Response No. 5: Approach to Mitigation Measures**.

Response SUB 1-19

The comment suggests an update to the regional investment number. See **Chapter 10, Corrections and Additions** for Executive Summary (p ES-4).

Response SUB 1-20

The comment suggests adding the words “to replace the gas tax” to the discussion. The suggested edit was not made as the statement suggested is not relevant to the text. Please see **Response SUB 1-14**.

Response SUB 1-21

The comment suggests adding toll roads to the list of roadways. See **Chapter 10.0 Corrections and Additions** for Executive Summary, page ES-11.

Response SUB 1-22

Commenter suggests that air quality mitigation measures defer to AQMDs or local jurisdictions. See **Master Response No. 5: Approach to Mitigation Measures** as well as **Response SUB 1-9**. Note that two air districts as well as many jurisdictions did comment on the PEIR. SCAQMD had suggestions for additional mitigation which have been incorporated (Please refer to **Responses REG 2-25 to 2-28** and **Chapter 10.0, Corrections and Revisions**).

Response SUB 1-23

The comment relates to mitigation measure PMM AES-3 (b) the measure has been revised to reflect the comment. See **Chapter 10.0, Corrections and Additions**, for page 3.1-40 of the PEIR.

Response SUB 1-24

The comment relates to the analysis under Impact AQ-1 provided in the Executive Summary. Commenter is referred to Section 3.3, Air Quality (p 3.3-51 through 3.3-53), which provides the substantial evidence for the less than significant conclusion regarding the potential to conflict with or obstruct implementation of applicable air quality plans. As stated on page 3.1-52, the goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures, including transportation control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent over time, achieving the standards becomes a moving target that the air quality districts, and air-related plans must continue to chase. At this current snapshot of time (2019), the Plan would not

conflict with the existing air-related plans since it will align with feasible Transportation Control Measures (TCMs). SCAG coordinates with air districts in the region to ensure that air quality management plans (and air pollution control plans) are consistent and comprehensively address air pollution from all sources (as appropriate) in the SCAG region. For example, the 2016 SCAQMD AQMP was developed in alignment with the 2016 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of January 17, 2017. Revisions are not required.

Response SUB 1-25

The comment relates to PMM AQ-1. Rule 403 is discussed in the regulatory framework in Section 3.3, Air Quality. As stated on Section 3.3, Air Quality (p 3.3-44), “The SCAQMD, AVAQMD, and MDAQMD have adopted Rule 403, Fugitive Dust, which requires the implementation of best available fugitive dust control measures during construction and operational activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and mobile equipment traveling on paved and unpaved roads.³⁰ Similarly, VCAPCD has adopted Rule 55, Fugitive Dust,³¹ and ICAPCD has adopted Rule 800, General Requirements for Control of Fine Particulate Matter (PM10),³² and Rule 801, Construction and Earthmoving Activities, to reduce fugitive dust.³³” Rule 403 does not need to be called out in any specific measure as compliance with Rule 403 is mandatory and assumed to occur. Revisions are not required.

Response SUB 1-26

Commenter references PMM AQ-1(q) and requests clarification with respect to AQMD. There are no current requirements to use Tier 4 construction equipment and no requirements regarding use of equipment near sensitive receptors. See **Master Response No. 5: Approach to Mitigation Measures** and **Response SUB 1-9** above.

³⁰ AQMD. *Rule 403. Fugitive Dust*. Available online at: <https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4>, accessed August 23, 2019.

³¹ VCAPCD. 2008. *Rule 55 – Fugitive Dust*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2055.pdf>, accessed August 23, 2019.

³² ICAPCD. 2012. *Rule 800 General Requirements for Control of Fine Particulate Matter (PM-10)*. Available online at: <https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE800.pdf>, accessed August 23, 2019.

³³ ICAPCD. 2005. *Rule 801 Construction and Earthmoving Activities*. Accessed online at: <https://www.co.imperial.ca.us/AirPollution/RULEBOOK/RULES/1RULE801.pdf>, accessed August 23, 2019.

Response SUB 1-27

The comment suggests mitigation measures should refer to permitting agencies and local regulations for biological resources. As stated on page 3.4-70 of the PEIR, all projects within the SCAG region would be subject to the provisions of the Federal and State ESAs, as well as Sections 1900–1913, 3511, 4150, 4700, 5050, 5515 of the State Fish and Game Code and Sections 80071–80075 of the State Food and Agriculture Code. Similar language referring to each of the resource agencies is included in each of the biological resources impact discussions, see page 3.4-77 and 3.4-83.

Further, measure PMM BIO-2 refers to USFS, CDFW, USFWS, local jurisdictions, local agencies, and landowners. Measure PMM BIO-3 refers to SWRCB, CDFW, USACE, therefore, no revisions are required. Refer to **Master Response No. 5: Approach to Mitigation Measures**.

Response SUB 1-28

The comment relates to analysis of Impact AQ-4 in the Executive Summary section of the PEIR. Refer to Section 3.3, Air Quality, (p. 3.3-81 through 3.3-84), which states, odor sources within the SCAG region, such as wastewater treatment facilities, landfills, and agricultural operations, are controlled by county and city odor ordinances and air district rules that prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. These ordinances and rules are enforced by the air pollution control districts and local law enforcements. For example, SCAQMD, MDAQMD, and AVAQMD Rule 113; VPAPCD Rule 74.2; and ICAPCD Rules 101 and 424, *Architectural Coatings*, limit the amount of volatile organic compounds from architectural coatings and solvents to further reduce the potential for odiferous emissions. SCAQMD also provides rules to establish odor management practices and requirements from solid waste transfer stations, material recovery facilities, and rendering facilities in Rule 410, *Odors from Transfer Stations and Material Recovery Facilities*,³⁴ and Rule 415, *Odors from Rendering Facilities*.³⁵ Additionally, SCAQMD and MDAQMD's Rule 402;^{36, 37} VCAPCD's Rule 51;³⁸ and IPAPCD's Rule 407³⁹ *Nuisance* establishes that no person shall discharge any source of air

³⁴ South Coast Air Quality Management District. 2006. *Rule 410. Odors from Transfer Stations and Material Recovery Facilities*. Available online at: <https://ww3.arb.ca.gov/drdb/sc/curhtml/r410.pdf>, accessed October 30, 2019.

³⁵ South Coast Air Quality Management District. 2017. *Rule 415. Odors from Rendering Facilities*. Available online at: <https://ww3.arb.ca.gov/drdb/sc/curhtml/r415.pdf>, accessed October 30, 2019.

³⁶ South Coast Air Quality Management District. 1976. *Rule 402. Nuisance*. Available online at: <http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf?sfvrsn=4>, accessed October 30, 2019.

³⁷ MDAQMD. 1977. *Rule 402 Nuisance*. Available online at: <http://mdaqmd.ca.gov/home/showdocument?id=290>, accessed November 15, 2019.

³⁸ VCAPCD. 2004. *Rule 51- Nuisance*. Available online at: <http://www.vcapcd.org/Rulebook/Reg4/RULE%2051.pdf>, accessed November 15, 2019.

³⁹ ICAPCD. 1999. *Rule 407 Nuisances*. Available online at: <https://ww3.arb.ca.gov/drdb/imp/curhtml/r407.pdf>, accessed November 15, 2019.

contaminants that may cause harm or nuisance to the public. In order to hold any facility accountable for nuisance rules, the air quality management districts allow the public to report any air quality problems within the district including odor complaints.⁴⁰ As such, the Plan would be required to adhere to these rules and implementation of the Plan would not be expected to result in substantial odor emissions or affect a substantial number of people when compared to existing conditions. Therefore, the impact would be less than significant, and the consideration of mitigation measures is not warranted.

Response SUB 1-29 and SUB 1-31, SUB 1-32, SUB 1-35 through 1-37, 1-39 and 1-40, SUB 1-45 through SUB 1-49

The commenter requests adding the language “where applicable and feasible” to the following mitigation measures: PMM BIO-1, PMM BIO-2, PMM BIO-3, PMM BIO-4, PMM BIO-5, PMM BIO-6, PMM CULT-1, PMM GEO-1, PMM CULT-2, PMM GEO-1, PMM GHG-1, PMM NOISE-2, PMM TRA-1, PMM TCR-1. See **Chapter 10.0, Corrections and Additions**, for the Executive Summary, pages 2.0-18 through 2.0-71.

Response SUB 1-32

The comment provides information that occasionally nationwide permits are revoked and Special Area Management Plans (SAMPs) are required and this should be reflected in Mitigation measure PMM BIO-4. See **Chapter 10.0, Corrections and Additions**, for the Executive Summary, for the requested change to page 3.4-85.

Response SUB 1-34

The commenter indicates that the PEIR (p 2.0-31) indicates that there are three Congestion Pricing strategies and that two were included in 2012 and 2016 RTP/SCS documents. Commenter asks which two and if measures previously implemented were effective or if new measures are required. See **Chapter 10.0, Corrections and Additions**, for Chapter 2.0 Project Description (p. 2.0-31). Additionally, of the three pricing strategies, the development of express lanes has been implemented. Mileage-based user fees and the development of cordon/area pricing have yet to be implemented but will likely occur in the future.

Response SUB 1-38

The comment requests an edit to Chapter 2.0 Project Description to add the term “toll roads.” See **Chapter 10.0, Corrections and Additions**, for page 2.0-35.

⁴⁰ South Coast Air Quality Management District. 2019. *Odor Complaints and Nuisance Violations*. Available online at: <http://www.aqmd.gov/home/news-events/community-investigations/sunshine-canyon-landfill/odor-complaints>, accessed October 30, 2019.

Response SUB 1-41 through SUB 1-44

The commenter suggests the “less than significant” impact conclusions for Geology and Soils should be re-evaluated but does not raise a specific concern regarding the analysis in the PEIR. Commenter is referred to Section 3.7, Geology and Soils, which states, implementation of the Plan would not exacerbate existing geologic hazards including fault rupture because the SCAG region is a seismically active area, and this condition exists throughout the region. Furthermore, there are numerous regulations in place to reduce such risks to any planned development or transportation project. Regarding unstable soils, page 3.7-38 indicates that hazards associated with unstable soils or geologic units are dependent on site-specific conditions, as well as the specific nature of the individual project proposed. However, implementation of transportation projects and development projects anticipated to occur under the Plan would not be expected to exacerbate existing conditions with respect to geologic units and existing soils. With adherence to grading permit and building code requirements, including seismic design criteria as required by the CBC, transportation projects and anticipated development projects would be designed to minimize potential risks related to unstable soils and geologic units. No revisions are necessary.

Response SUB 1-50

The comment relates to the hierarchy of SCAG committees. This comment does not raise an environmental issue within the meaning of CEQA. See **Chapter 10.0, Corrections and Additions for Chapter 2.0, Project Description** (p 1.0-4).

Response SUB 1-51

The comment requests deleting a sentence regarding city and county general plans being required to be consistent. See **Chapter 10.0, Corrections and Additions**, for Section 3.11, Land Use and Planning (p 3.11-12).

Response SUB 1-52

The comment suggests additional text be added with respect to the RHNA (Section 3.11, Land Use Planning, (p 3.11-32)). SCAG objected to the HCD Regional Housing Need Determination in its letter dated September 18, 2019. The letter may be viewed at: <http://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Objection-Letter-RHNA-Regional-Determination.pdf>. Additionally, the suggested edit goes beyond the scope of what is necessary to describe the RHNA process. Commenter is also referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1- 53

The comment suggests a minor text edit to clarify housing need is determined by the RHNA process. See **Chapter 10.0, Corrections and Additions** for Section 3.11, Land Use and Planning (p 3.11-32).

Response SUB 1-54 and SUB 1-55

The comment asks questions regarding RHNA allocations and alternatives in the PEIR. With regards to allocation, allocation refers to the jurisdictional number by income category. A jurisdiction's RHNA allocation is derived by distributing the regional housing need to each of the 197 jurisdictions in the region using the RHNA allocation methodology adopted by the SCAG Regional Council on March 5, 2020. For further details of the adopted RHNA methodology, please see www.scag.ca.gov/rhna. Additionally, a jurisdiction is required to site and zone for housing to meet its RHNA allocation. Commenter is also referred to **Master Response No. 7: Regional Housing Needs Assessment** and **Master Response No. 8 Alternatives**.

Response SUB 1-56

The comment requests clarifications regarding RHNA on page 3.11-33.

The comment takes issue with the statement that the RHNA does not necessarily encourage or promote growth (Section 3.14, Population and Housing, p 3.14-14, 4th paragraph).

The RHNA quantifies and allocates the determination of housing need during specified planning periods, at various income categories for each city and county in the region, in accordance with state housing law. Cities and counties then address this need through the process of updating, if necessary, the housing elements of local General Plans. This planning process is intended to accommodate the determined housing need, not necessarily encourage or promote growth. The RHNA objectives of "promoting infill development" and "the encouragement of efficient development patterns..." is to accommodate need in a sustainable manner.

The RHNA objectives of "promoting infill development" and "the encouragement of efficient development patterns..." is to accommodate growth in a sustainable manner. Commenter is referred to **Master Response No. 7 Regional Housing Needs Assessment**.

Response SUB 1-57

The comment provides a suggested edit on Section 3.11, Land Use and Planning (p 3.11-33), regarding the RHNA process. With regards to allocation, please refer to **SUB 1-52**. The suggested edit adds unnecessary detail to the sentence and therefore was not made. Commenter is referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-58

The comment provides a suggested edit on Section 3.14, Population and Housing (p 3.14-13), regarding the RHNA process. The suggested edit goes beyond the scope of what is necessary to describe the RHNA process. Commenter is referred to **SUB 1-52** and **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-59

Regarding page Section 3.14, Population and Housing, (p 3.14-15 paragraph 2), the commenter asks if the existing needs portion of the 6th cycle RHNA will be consistent with Connect SoCal for the comparable period as stated in the referenced location. See **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-60

The commenter indicates that the discussion of the RHNA on Section 3.14, Population and Housing (p 3.14-1 paragraph 1), is “extremely vague for an estimated 900,000 housing units of existing need”. The commenter is referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-61

The commenter expresses disagreement with HCD’s RHNA determinations and methodology. Commenter indicates that HCD ignores Government Code Section 65584.01(a). It is important to note that SCAG objected to the HCD Regional Housing Need Determination in its letter dated September 18, 2019. The objection letter could be viewed at:

<http://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Objection-Letter-RHNA-Regional-Determination.pdf>.”

The commenter is referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-62

Commenter takes issue with the sentence (on page 3.11-33) that the RHNA does not necessarily encourage growth. See **Response 1-56**. See also **Master Response No. 7 Regional Housing Needs Assessment**.

Response SUB 1-63

The commenter expresses disagreement with HCD's RHNA determinations and methodology. It is important to note that SCAG objected to the HCD Regional Housing Need Determination in its letter dated September 18, 2019. The objection letter could be viewed at: <http://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Objection-Letter-RHNA-Regional-Determination.pdf>. The commenter is referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-64

Regarding the existing needs portion of the RHNA, commenter references Section 3.11, Land Use and Planning (p 3.11-33), the commenter asks again (as in **Comment SUB-59**) if the existing needs portion of the 6th cycle RHNA will be consistent with Connect SoCal for the comparable period as stated in the referenced location. See **Master Response No. 7: Regional Housing Needs Assessment**.

Response SUB 1-65

The commenter requests the reference to the Orange County Central Coastal National Community Conservation Plan (NCCP) / Habitat Conservation Plan (HCP). This information is added to Section 3.4, Biological Resources (p 3.4-58); see **Chapter 10.0, Corrections and Additions**.

Response SUB 1-66

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001465, 0001467-0001469, 0001475, 0001476, 0001479, 0001480, 0001482, 0001484-0001486, 0001488, 0001490, 0001491, 0001493-0001495, and 0001497* of the Final Connect SoCal Plan.

Letter TRANS 1: Los Angeles County Metropolitan Authority

Los Angeles County Metropolitan Authority
Kalieh Honish
Executive Officer, Long Range Planning
Metro Countywide Planning & Development
One Gateway Plaza
Los Angeles, CA 90012

January 21, 2020

Response TRANS 1-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001311, 0001312, 0001344, 0001347, 0001450, 0001454, and 0001559* of the Final Connect SoCal Plan.

Response TRANS 1-2

The comment suggests SCAG assist jurisdictions in SB 743 implementation. Mitigation Measure SMM TRA-3 on Section 3.17, Transportation, Traffic and Safety (p 3.17-62), of the PEIR outlines a SCAG initiated SB 743 implementation program. The grant-funded project, co-sponsored by SCAG and LADOT, seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743.

Response TRANS 1-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001311, 0001312, 0001344, 0001347, 0001450, 0001454, and 0001559* of the Final Connect SoCal Plan.

Letter TRANS 2: Orange County Transportation Authority

Warren Whiteaker
Orange County Transportation Authority

Undated

Response TRANS 2-1

The comment presents a technical change to replace “\$633.9 billion” with “638.6 billion.” Refer to **Chapter 10.0, Corrections and Additions**, for the Executive Summary page ES-4.

Response TRANS 2-2

The comment presents an editorial change. Refer to **Chapter 10.0 Corrections and Additions** for the Executive Summary.

Response TRANS 2-3

The comment presents a suggested edit, refer to **Chapter 10.0 Corrections and Additions** for Executive Summary and page 2.0-35.

Response TRANS 2-4 through TRANS 2-14 and TRANS 2-16 through 2-18

The comments suggest adding “where applicable and feasible” to mitigation measures PMM BIO-1, PMM BIO-2, PMM BIO-3, PMM BIO-4, PMM BIO-5, PMM BIO-6, PMM CULT-1, PMM CULT-2, PMM GEO-1, PMM GHG-1, PMM HYD-4, PMM NOISE-2, PMM TRA-1, PMM TCR-1. See **Response to Comment SUB 1-9**.

Response TRANS 2-15

The comment asks for clarification as to whether PMM HYD-4 (regarding raising roadbeds for new highways and rail facilities 1 foot above the 100-year base flood elevation) applies only to bridges. As for all mitigation measures, each lead agency would determine the necessity and applicability of this mitigation measure.

Response TRANS 2-19

The comment suggests reformatting Table 2.0-3. The purpose of the table is to provide general information regarding the expenditures, the reformatting is not necessary and does not raise an environmental concern within the meaning of CEQA. No revision was made.

Response TRANS 2-20

The comment requests updates to Figures 2.0-5, 2.0-8, 2.0-11 and 2.0-18. The referenced figures were updated as part of the Plan's final refinements. The refinements do not change the analysis within the PEIR which provides regional analysis. Commenter is referred to the Plan for the final figures.

Letter TRANS 3: San Bernardino County Transportation Authority and San Bernardino Council of Governments

San Bernardino County Transportation Authority
San Bernardino Council of Governments
1170 W. 3rd Street, 2nd Floor
San Bernardino, CA 92410

January 27, 2020

Response TRANS 3-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-2

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-4

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-5

The comment requests clarification regarding VMT and GHG data presented within the RTP/SCS and the PEIR. Several factors that occurred during the development of the two documents may have resulted in data being presented slightly differently (due to the PEIR using earlier versions of model runs and rounding numbers differently). However, there is no difference between the VMT, GHGs or other performance measures associated with the Plan and the PEIR. As the documents are generally prepared in tandem due to the timeframe for publication, the data may be slightly different in each document. Since publication of the Draft EIR, the calculations and a number of tables have been revised. See **Chapter 8.0 Introduction** for a summary of the changes. Also, the PEIR sometimes presents data for different years, such as 2019 due to the CEQA requirement to use existing conditions. However, as stated, there is no difference between the VMT, GHGs and other performance measures.

Response TRANS 3-6

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan

Response TRANS 3-7

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan

Response TRANS 3-8

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan

Response TRANS 3-9

The comment relates to matching VMT data between the Plan and the PEIR. See Response TRANS 3-5. For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-10

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Response TRANS 3-11

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001308, 0001502, 0001509, 0001511 and 0001513* of the Final Connect SoCal Plan.

Letter TRANS 4: Transportation Corridor Agencies

Michael A. Kraman, Chief Executive Officer
Transportation Corridor Agencies
125 Pacifica, Suite 100
Irvine, CA 92618

January 23, 2020

Response TRANS 4-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001449* of the Final Connect SoCal Plan.

Response TRANS 4-2

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001449* of the Final Connect SoCal Plan.

Response TRANS 4-3 through TRANS 4-9

The comments suggest clarifications to the PEIR regarding the existing and planned inter-operable priced transportation network. The Final PEIR updates all text changes to the Chapter 2.0 Project Description. Please refer to **Chapter 10.0, Corrections and Additions**, for numerous changes to Chapter 2.0 Project Description.

Response TRANS 4-10

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001449* of the Final Connect SoCal Plan.

Response TRANS 4-11

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001449* of the Final Connect SoCal Plan.

Response TRANS 4-12

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001449* of the Final Connect SoCal Plan.

Letter LOC 1: County of Los Angeles Department of Parks and Recreation

Ju Lng Chien, Park Planner
Planning and Development Agency
1000 S. Fremont Avenue, Unit #40
Alhambra, CA 91803

January 16, 2020

Response LOC 1-1

This comment is a set of general introductory remarks. No specific response is required.

Response LOC 1-2

The comment includes information regarding the Los Angeles Countywide Parks and Recreation Needs Assessment. This information is incorporated into the PEIR on Section 3.16, Parks and Recreation (p 3.16-18). See **Chapter 10.0, Corrections and Additions**, for that page.

Response LOC 1-3

The comment includes information regarding the Transit to Parks Strategic Plan (2019). This information is incorporated into the PEIR on Section 3.16, Parks and Recreation (p 3.16-18). See **Chapter 10.0 Corrections and Additions**, for that page.

Response LOC 1-4

The comment relates to parks to people ratios and the number of parks in the County on Section 3.16, Parks and Recreation (p 3.16-9), of the PEIR. The discussion is revised to reflect this comment. See **Chapter 10.0 Corrections and Additions**, for that page.

Response LOC 1-5

The comment provides a correction to the number of parks in the County as listed on Section 3.16, Parks and Recreation (p 3.16-10). See **Chapter 10.0 Corrections and Additions**, for that page.

Response LOC 1-6

The commenter provides contact information. No specific response is required.

Letter LOC 2: County of Ventura, Resource Management Agency

Linda Blackburn, Senior Planner
Long Range Planning Section
Ventura County Planning Division
800 S. Victoria Avenue
Ventura, CA. 93009

January 22, 2020

Response LOC 2-1

This comment provides introductory remarks. No specific response is required.

Response LOC 2-2

The comment states the Draft EIR did not include language which would address impacts on the County's Locally Important Species or communities, nor were they considered "special status species." The language in the PEIR included information to address potential impacts to "special status species." Specific language for Ventura County was included in the regulatory framework for local jurisdictions specifically that: "The Ventura County Code of Ordinances has established one ordinance related to biological resources. The Resources Element of the Ventura County General Plan has established one goal and two policies related to biological resources. The one code, one goal, and six supporting policies relevant to SCAG projects provide protection to native trees, sensitive species, sensitive habitats, wildlife corridors, and locally important species/communities."

Due to the scope and scale of the six county-wide SCAG region, analyses were limited to plants and animals listed in regional databases with georeferenced known locations (such as the California Natural Diversity Data Base, or CNDDDB). The impact analysis reviewed potential environmental impacts to sensitive biological resources from a regional perspective and is programmatic in nature. As such, Lead Agencies for each individual project will determine the level of environmental review required at the subsequent project-level evaluation of individual projects.

Project specific analysis and reporting will be required, and specific environmental documents are to be prepared that must consider local regulations, as outlined in project level mitigation measures, for example when a project will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Existing conditions and impact analyses did include oak (*Quercus* spp.) and California (also known as black) walnut (*Juglans californica*) and various oak woodland and walnut plant communities, provided such information was available from regional databases. These species and communities were identified in Ventura County and impact analysis (from the broad scale of this PEIR) indicated that 0 acres of walnut communities, 44 acres of coast live oak, and 35 acres of valley oak communities were located within 500 feet of preliminarily identified “Major Transportation Projects”. As indicated in the PEIR, the regional records are incomplete and likely do not show all sensitive species and habitats present in a given area and project specific surveys should be required by the local Lead Agency for subsequent project-level evaluation of individual projects. See **Master Response No. 2: Program EIR vs Project EIR** and **Response to Comment ORG-8**.

Response LOC 2-3

The commenter refers to the County’s Initial Study Assessment Guidelines. As described in **Master Response No. 2: Program EIR vs. Project EIR**, the Connect SoCal PEIR is a programmatic document that provides a region-wide assessment of the potential significant environmental effects of implementing policies, strategies, projects, and programs included in Connect SoCal. Because the PEIR is programmatic in nature and regional in approach, it does not include site-specific analysis of any project contained in Connect SoCal, nor does it proscribe a specific approach that should be undertaken in any particular jurisdiction. Each jurisdiction is required to comply with CEQA and is encouraged to do so in a manner that is consistent with local guidelines. See also **Master Response No. 5: Approach to Mitigation Measures**, mitigation measures provide flexibility so that each jurisdiction can tailor their approach as appropriate.

Response LOC 2-4

The comment suggests SCAG should analyze the Plan with respect to Ventura County General Plan goals. See **Response REG 4-3** above. The SCAG jurisdiction is comprised of 191 cities and six counties all of which have numerous policies in their general plans. As described in the Plan, SCAG engaged with local, state and federal agency partners to develop the Plan. SCAG worked closely with local governments throughout the region to collect and compile data on land use and growth trends. This “Bottom-Up Local Input and Envisioning Process,” formed the basis for projections and strategies in

Connect SoCal. SCAG staff held one-on-one meetings with the region's 197 towns, cities and counties. In addition to seeking feedback on regional forecasts of population, household and employment growth, SCAG gathered data on land use, protected natural lands, farmland, flood areas and coastal inundation, regional bikeways, regional truck routes, planned major transit stops, high quality transit corridors, future transit priority areas, and other local data. In addition to the jurisdictions themselves, the data came from county assessors' offices, county transportation commissions, and state and federal partners. Although the Plan was developed through the collaborative process, determinations of consistency with individual jurisdictions policies are not required or appropriate at the program level. Moreover, SB 375 does not require consistency between the SCS and city or county general plan, community plan, specific plan, or local zoning ordinance.

The Plan does not identify specific development locations and even for transportation projects, detailed project information is not available. Impact BIO-3 starting on Section 3.4, Biological Resources (page 3.4-80), programmatically evaluates impacts of the Plan on wetlands. Mitigation measures are identified (starting on page 3.4-84), and impacts are found to be significant and unavoidable at the regional level (pages 3.4-85 to 3.4-86). See **Master Response No. 2: Program EIR vs. Project EIR**.

Response LOC 2-5

The comment provides specific edits to mitigation measures included in the PEIR. See **Chapter 10.0, Corrections and Additions**, for pages 3.4-72, 3.4-90, with respect to changes to the mitigation measures in response to this comment. While changes were made to the mitigation measures to modify the general language, inclusion of language specific to Ventura County requirements was not included. The reasoning for this is, as described in Chapter 1.0 Introduction, page 1.0-32, it is the intent of SCAG to allow project sponsors to use mitigation measures identified or comparable measures (as determined by the project sponsor/local jurisdiction). Project level mitigation measures contained within the PEIR are programmatic in nature, and therefore, references to any specific jurisdiction's requirements should be included by the jurisdiction at the project level. See also **Master Response No. 5: Approach to Mitigation Measures**.

Response LOC 2-6

This comment provides contact information. No specific response is required.

Response LOC 2-7

The comment provides land use policy analysis for Ventura County and indicates that Ventura County staff concurs with the PEIR's finding regarding land use consistency. No specific response is required.

Response LOC 2-8

The comment relates to solid waste tonnage provided in See **Chapter 10 Corrections and Additions** on page 3.19.1-1, Section 3.19, Solid Waste, Solid Waste, Table 3.19.1-1, Solid Waste Tonnage within the SCAG Region (2018). Please see **Chapter 10.0, Corrections and Additions**, for changes to the table.

Response LOC 2-9

The commenter concurs with PMM USWW-1. No specific response is required.

Response LOC 2-10

The comment relates to Ventura County's requirements related to specific projects requiring infrastructure improvements and the need to consult with Ventura County Planning Division. See **Master Response No. 2: Program EIR vs. Project EIR**.

Response LOC 2-11

This comment is a copy of the PEIR NOP comment letter and provides introductory text, and provides background information concerning local input and requests special consideration of farmland. Commenters input was considered as part of Plan and PEIR preparation. Loss of farmland is discussed in Impact AG-1 as well as AG-5, and mitigation is identified starting on page 3.2-22 as well as on page 3.2-30 on Section 3.2, Agriculture and Forestry. Impacts related to loss of farmland regionwide are found to be significant and unavoidable. See also **Master Response No. 2: Program EIR vs. Project EIR**.

Response LOC 2-12

The comment provides details regarding the Saticoy Area Plan and requests specific changes to the Project List/FTIP. See **Response LOC 2-7** above.

Letter LOC 3: Ventura County Public Works

Anthony Ciuffetelli, RMA Planner
County of Ventura, Watershed Planning and Permits Division
800 South Victoria Avenue
Ventura, CA 93009

December 6, 2019

Response LOC 3-1

The comment summarizes the Connect SoCal project. No specific response is required.

Response LOC 3-2

The commenter provides information specific to project permitting in Ventura County relative to compliance with Ventura County Watershed District policies. Please refer to **Master Response No. 2: Program EIR vs. Project EIR**. Section 3.10, Hydrology and Water Quality, includes project-level mitigation measures, PMM HYD-1 and PMM HYD-2 and Section 3.4, Biological Resources, includes measures PMM BIO-1, PMM BIO-2 and PMM BIO-3 which all relate to wetlands and water quality. As stated throughout the PEIR, jurisdictions can and should implement project level mitigation included in the PEIR at the project level as appropriate and determined by each lead agency.

Response LOC 3-3

The commenter provides information specific to flood hazards and FEMA mapping in Ventura County. See **Response REG 6-2** above and **Master Response No.2: Program EIR vs. Project EIR**. Section 3.10, Hydrology and Water, includes measure PMM HYD -3 related to flooding.

Response LOC 3-4

The commenter indicates requirements for projects in the Coastal Zone relative to coastal hazards and sea level rise in Ventura County. See **Responses REG 6-1** and **REG 6-2** above and **Master Response No. 2: Program EIR vs. Project EIR**. Coastal Flooding and Sea level rise are discussed starting on page 3.10-22; Coastal Commission guidance is discussed starting on Section 3.10, Hydrology and Water Quality (p 3.10-38). Impacts associated with sea level rise are discussed starting on Section 3.10, Hydrology and Water Quality (p 3.10-66). A map showing areas vulnerable to sea level rise (including areas within Ventura County is presented in Figure 3.10-3, Areas Vulnerable to Sea Level Rise. Projects must be implemented in accordance with all local, state and federal requirements including any requirements specific to coastal zones.

Letter LOC 4: City of Costa Mesa

Barry Curtis
Director of Economic and Development Services
City of Costa Mesa
P.O. Box 1200
77 Fair Drive
Costa Mesa, CA 92628

January 24, 2020

Response LOC 4-1

The letter expresses support for the recommendations submitted by OCCOG, OCTA and Center for Demographic Research. See Letters **SUB-1**, **TRANS-2** and **ORG-9** for specific responses.

Letter LOC 5: City of Huntington Beach

Nicole Aube, AICP
Associate Planner
City of Huntington Beach
2000 Main Street
Huntington Beach, CA 92648

January 23, 2020

Response LOC 5-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001393* of the Final Connect SoCal Plan.

Response LOC 5-2

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001393* of the Final Connect SoCal Plan

Response LOC 5-3

The comment relates to HQTAs. In response to this and similar comments, SCAG has revised the HQTAs within the Plan. Maps showing the revised locations of HQTAs are provided in the Plan. However, as discussed in Chapter 8.0 Introduction, the revisions to the HQTAs do not affect the regional level analysis provided in the PEIR. No revisions are necessary.

The comment relates to the Connect SoCal Project List. See **Master Response No. 1: General Comments and Non-CEQA Issues**. Projects featured in the Plan's Project List Appendix were provided by the six County Transportation Commissions (CTCs) for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. The projects provided by the CTCs are regarded as regionally significant and/or anticipated to receive (or already receiving) federal funds. In addition, the CTCs anticipate that these projects will be initiated or completed by the Plan's horizon year in this case, 2045. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001393* of the Final Connect SoCal Plan.

Response LOC 5-4

The comment relates to the RHNA and the allocation of the 5th and 6th cycles. Refer to **Master Response No. 7: Regional Housing Needs Assessment**.

Response LOC 5-5 through LOC 5-10

The comment expresses support for comments from OCCOG and OCTA. Please refer to letters **SUB-1** and **TRANS-2** for responses.

Response LOC 5-11

This comment is a closing paragraph thanking SCAG for the opportunity to comment on the Plan and the PEIR. No specific response is required and no revisions are necessary.

Letter LOC 6: City of Indio

Gustavo Gomez Assistant Planner
Community Development Department
100 Civic Center Mall,
Indio, CA 92201

January 24, 2020

Response LOC 6-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001554* of the Final Connect SoCal Plan.

Response LOC 6-2

Commenter provides edits to Table 3.8-4, California Jurisdictions Addressing Climate Change in the SCAG Region. As requested, the table has been updated to reflect the City of Indio's Climate Action Plan. See **Chapter 10.0, Corrections and Additions**, for Section 3.8, Greenhouse Gas Emissions (p 3.8-58).

Response LOC 6-3

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001554* of the Final Connect SoCal Plan.

Response LOC 6-4

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001554* of the Final Connect SoCal Plan.

Letter LOC 7: City of Irvine

Pete Carmichael
Director of Community Development
City of Irvine
Community Development
1 Civic Center Plaza
Irvine, CA 92606
January 24, 2020

Response LOC 7-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001529* of the Final Connect SoCal Plan.

Response LOC 7-2

The comment expresses concurrence with comments from OCTA, OCCOG and Center for Demographic Research. Please refer to **Master Response No. 7: Regional Housing Needs Assessment**. Also, see Responses to **TRANS-2, SUB-1 and ORG-9**.

Response LOC 7-3

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001529* of the Final Connect SoCal Plan.

Response LOC 7-4

The comment expresses opposition to any alternative that does not use local input and/or jurisdictional totals. See **Response SUB 1-6**.

Response LOC 7-5

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001529* of the Final Connect SoCal Plan.

Response LOC 7-6

The comment expresses opposition to the naming of specific technology. See **Response SUB 1-7**.

Response LOC 7-7

The comment suggests language in the PEIR is leading and dramatic. The comment and its associated attachment include specific suggested text changes. These changes are incorporated where appropriate. See individual responses below. See **Response SUB 1-8**.

Response LOC 7-8

The comment relates to “can and should” language in the PEIR. See **Response SUB 1-9** and **Master Response 5: Approach to Mitigation Measures**.

Response LOC 7-9

The comment relates to the use of regulations in the mitigation measures. See **Response SUB 1-10** and **Master Response 5: Approach to Mitigation Measures**.

Response LOC 7-10

The comment suggests replacing the word “cities” with “jurisdiction.” See **Response SUB 1-11**

Response LOC 7-11

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001529* of the Final Connect SoCal Plan.

Response LOC 7-12

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001529* of the Final Connect SoCal Plan.

Response LOC 7-13

The comment relates to fees and/or taxes as mitigation measures. See **Response SUB 1-14**

Response LOC 7-14

Commenter provides a summary of comments and concluding remarks. See specific responses above. No additional response is required.

Letter LOC 8: City of La Habra

Carlos Jaramillo
Deputy Director of Community Development
Community Development
110 E. La Habra Boulevard
La Habra, CA 90633

December 19, 2019

Response LOC 8-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001356* of the Final Connect SoCal Plan.

Letter LOC 9: City of Laguna Hills

David Chantarangsu
Community Development Director
City of Laguna Hills
24035 El Toro Road
Laguna Hills, CA 92653

January 24, 2020

Response LOC 9-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001547* of the Final Connect SoCal Plan.

Letter LOC 10: City of Lancaster

Candice Vander Hyde

Response LOC 10-1

The comment relates to the Connect SoCal Project List. Please refer to **Master Response No. 1: General Comments and Non-CEQA Issues**. Projects featured in the Plan's Project List Appendix were provided by the six County Transportation Commissions (CTCs) for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. Updates to the project list are coordinated through SCAG planning staff and are not comments on the PEIR. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001375* of the Final Connect SoCal Plan.

Letter LOC 11: City of Los Angeles, Department of Transportation (LADOT)

Seleta J. Reynolds, General Manager
Department of Transportation

January 16, 2020

Response LOC 11-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001304 and 0001555* of the Final Connect SoCal Plan.

Response LOC 11-2

The comment generally summarizes the findings of Section 3.8, Greenhouse Gas Emissions, and suggests that SCAG continue to partner with state and local agencies to pursue solutions that reduce regional VMT. As described throughout the Plan and PEIR, SCAG uses a “bottom up” approach and committee involvement to shape the strategies within the Plan (See Chapter 2.0 Project Description). SCAG encourages LADOT to work closely with SCAG during the next four years to develop new and innovate strategies to reduce GHG emissions. The comment also expresses support for the mitigation measures included on Section 3.17, Transportation, Traffic and Safety (p 3.17-62 to 3.17-64), of the PEIR.

Response LOC 11-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001304 and 0001555* of the Final Connect SoCal Plan.

Response LOC 11-4

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001304 and 0001555* of the Final Connect SoCal Plan.

Response LOC 11-5

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001304 and 0001555* of the Final Connect SoCal Plan.

Response LOC 11-6

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001304 and 0001555* of the Final Connect SoCal Plan.

Response LOC 11-7

This comment is a set of summary remarks. No specific response is required.

Letter LOC 12: City of Mission Viejo

Dennis Wilberg, City Manager
Office of the City Manager
City of Mission Viejo
200 Civic Center
Mission Viejo, CA

January 22, 2020

Response LOC 12-1

This comment is a set of general introductory remarks. No specific response is required.

Response LOC 12-2

The comment requests quantification of GHG emission reductions per alternative for 2020 and 2035. The comment further states that SCAG internally shifts, within jurisdictions, future growth proximate to Priority Growth Areas resulting in a land use distribution that differs from the Local Input distribution. See **Master Response 8: Alternatives** and **Master Response 5: Regional Housing Needs Assessment**. Due to the various complexities of the model as well as the gross nature of estimates, SCAG has elected to discuss GHG emissions among alternatives qualitatively. *CEQA Guidelines* Section 15126.6(d) allows that alternatives be discussed at a lesser level of detail than the project.

Response LOC 12-3

The commenter requests clarification on the discussion of alternatives presented in the PEIR. Specifically, the statement that the Connect SoCal Plan and the Intensified Land Use Alternative would conflict with AB 32 and SB 32 despite meeting the targets. As discussed in Section 3.8, Greenhouse Gases, of the PEIR (p. 3.8-73), pursuant to Appendix G of the *CEQA Guidelines*, a significant GHG impact is identified if the Plan could conflict with applicable GHG reduction plans, policies, or regulations. Transportation projects and anticipated development under the Plan would be subject to complying with SB 375, SB 743, AB 32, and SB 32. SB 375 requires MPO's to meet per capita emission reduction by 2020 and 2035 as compared to the base year of 2005. AB 32 and SB 32 are statewide reduction goals aimed at reducing emissions to 1990 levels by 2020 and reducing emissions to 40% below 1990 levels by 2030, respectively. The Plan will meet the reduction goals set forth by CARB pursuant to SB 375 (19 percent by 2035). However, CARB has indicated that achievement of the SB 375 goals is insufficient for the transportation sector to meet the state's overall GHG reduction goals, achievement of the statewide goal would require a 25 percent per capita emissions reduction among all MPOs which CARB recognizes is infeasible. SCAG's 19 percent GHG emissions reduction goal results in a six percent gap. In addition, without additional information as to how other sectors (energy, water-related energy and other sources of emissions) would reduce

emissions to meet targets, the Plan would not be consistent with AB 32 and SB 32. As a result, the impact would be significant and unavoidable.

Response LOC 12-4

The comment relates to statements in the PEIR referencing the CARB progress report which stated that even if all MPOs meet regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32, and the Scoping Plan (PEIR page 3.8-80). The commenter requests information on any policy, target or performance measures for the SCAG region related to GHG that may be imposed on local governments. SCAG's authority under SB 375 and other state and federal laws has not changed. CARB has not provided SCAG with specific VMT performance targets, and has only provided SCAG (and other MPOs) with GHG reduction targets under SB 375. Further SB 375 targets are regional targets and not local GHG reduction targets to be applied at the local level. It is however SCAG's role to work closely with local jurisdictions in the attainment of regional targets set by CARB. This process is fully described in the Connect SoCal plan as part of the "bottom up" planning process. Commenter is also referred to Response **LOC 12-3** above regarding statewide progress on achieving the targets set by CARB.

Response LOC 12-5

Comment suggests removing "can and should" language from the PEIR. Refer to **Response SUB 1-9** and **Master Response No. 5: Approach to Mitigation Measures**.

Response LOC 12-6

This comment is a set of general remarks. No specific response is required.

Letter LOC 13: City of Moreno Valley

Claudia Manrique, Associate Planner

Response LOC 13-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001542* of the Final Connect SoCal Plan.

Letter LOC 14: City of South Pasadena

Robert Joe, Mayor
City of South Pasadena
1414 Mission Street,
South Pasadena, CA 91030

January 21, 2020

Response LOC 14-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001534* of the Final Connect SoCal Plan.

Letter LOC 15: City of West Hollywood

John Leonard, Community and Legislative Affairs Manager
City of West Hollywood
8300 Santa Monica Blvd.
West Hollywood, CA 90069

January 23, 2020

Response LOC 15-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001416* of the Final Connect SoCal Plan.

Letter LOC 16: City of Yorba Linda

David Brantley, Community Development Director
City of Yorba Linda
4845 Casa Loma Avenue
Yoba Linda, CA 92866

January 21, 2020

Response LOC 16-1

The comment provides introductory statements. No response is necessary.

Response LOC 16-2

The commenter states the RHNA growth and need is inconsistent with the Connect SoCal forecast. With regards to allocation, allocation refers to the jurisdictional number by income category. A jurisdiction's RHNA allocation is derived by distributing the regional housing need to each of the 197 jurisdictions in the region using the RHNA allocation methodology adopted by the SCAG Regional Council on March 5, 2020. For further details of the adopted RHNA methodology, please see www.scag.ca.gov/rhna.

The commenter is also referred to **Response Sub 1-54** and **Sub 1-55** and **Master Response No. 7: Regional Housing Needs Assessment**.

Response LOC 16-3

The comment requests an edit to Section 3.14, Population and Housing, specifically related to the guiding principles. This change is made. Refer to **Section 10.0, Corrections and Additions**, for page 3.14-9.

Response LOC 16-4

The comment takes issue with the statement that the RHNA does not necessarily encourage or promote growth (Section 3.14 Population and Housing (p 3.14-14, 4th paragraph). Commenter is referred to **Response SUB 1-56**.

Response LOC 16-5

The comment relates to the 6th cycle of the RHNA and whether it will be consistent with the Connect SoCal for the comparable period. Refer to **Master Response No. 7: Regional Housing Needs Assessment**.

Response LOC 16-6

The comment relates to the 6th cycle of the RHNA. Refer to **Master Response No. 7: Regional Housing Needs Assessment**.

Response LOC 16-7

The comment suggests the RHNA methodology is a reasonable alternative. SCAG disagrees that the RHNA methodology is a CEQA alternative. The RHNA is a planning process and cannot be used as a reasonable growth forecast. Once the allocation has gone through the local planning process of being included in local housing elements, those numbers become part of the local input process SCAG uses for developing the growth forecast which ultimately is used in the SCS. Refer also to **Master Response No. 7: Regional Housing Needs Assessment.**

Response LOC 16-8

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001557* of the Final Connect SoCal Plan.

Response LOC 16-9

The comment is a summary of the letter. Comments are responded to individually above.

Letter ORG 1: Coalition for a Safe Environment

California Kids IAQ
Community Dreams
EMERGE
American Legion Post #6
Wilmington Improvement Network
San Pedro & Peninsula Homeowners Coalition
NAACP - San Pedro-Wilmington Branch #1069
St. Philomena Social Justice Ministry

January 24, 2020

Response ORG 1-1

The comment requests a 30-day extension for the public comment period. SCAG provided notice to interested parties in accordance with *CEQA Guidelines* Section 15085. As such, an extension is not necessary or warranted. The Connect SoCal Plan process including the PEIR process is tightly scheduled and an extension of the PEIR review period could result in unnecessary delay.

Response ORG 1-2

The comment suggests the PEIR include a section on environmental justice and disadvantaged communities. Connect SoCal includes an Environmental Justice (EJ) Technical Report. As identified in the EJ Technical Report, SCAG identified 18 performance indicators and conducted analyses of existing and future social and environmental equity in the region in various areas of analysis, which are environmental justice areas, Senate Bill 535 (SB 535) disadvantaged communities, and communities of concern. The EJ Technical Report concludes that Connect SoCal implementation will not result in disproportionate or adverse impacts on low income and minority populations in most performance areas. Specifically, conditions will improve regionally for EJ communities in accessibility to employment and services and parks and educational facilities, impacts along freeways and high-traffic roads, and travel time and travel distance savings. Current conditions analyses for active transportation hazards, climate vulnerability and public health indicate that EJ communities incur a higher risk of adverse impacts while current condition analyses on jobs-housing imbalance and neighborhood change and displacement indicate EJ communities will experience improvements or not be impacted. The regional and local emissions impact, roadway noise impacts and rail-related impact analyses show adverse impacts at the local level for certain regions but improvements at a regional level. The EJ Technical Report also finds the Plan has yielded positive results in travel time and travel distance reductions for the region and EJ communities, specifically in less spending time on driving and more on transit; as such, more people will be using public transportation to reach their essential destinations (e.g. job, shopping, recreation, etc.) as the result of more integrated transit system

An EJ Toolbox is also provided which includes recommended practices and approaches for performance areas that may result in disproportionate adverse impacts on EJ communities and can be a resource to local jurisdictions or EJ stakeholders to combat disproportionately adverse impacts on EJ communities. The EJ Toolbox has been added to the following measures PMM AQ-1 aa), PMM GHG-1, and PMM NOISE-1. See **Chapter 10.0, Corrections and Additions**, for page 3.3-67, 3.8-72, and page 3.13-39. CEQA requires that where General Plans have been updated to include policies relevant to EJ, that the CEQA analysis should address consistency with those policies. This is a recent requirement and few if any general plans have been updated to address EJ. Therefore, it was not possible to undertake an evaluation of Plan consistency with such polices as of yet. In general, there is no requirement to include a separate EJ analysis within CEQA documents as CEQA is focused on physical impacts on the environment. However, EJ issues may be a factor in considering individual projects. The commenter is referred to the EJ Technical Report for evaluation of EJ impacts on communities in the SCAG region.

Response ORG 1-3

The comment refers to redline mark-up of the PEIR provided by the commenter. These comments are responded to individually below.

Response ORG 1-4

The comment suggests edits to the introductory paragraph. Refer to **Chapter 10.0, Corrections and Additions**, for Section 3.3, Air Quality (p 3.3-1).

Response ORG 1-5

The comments are editorial opinions – no changes were made.

Response ORG 1-6

The comment requests EJ information on cancer risk. The commenter is referred to the EJ Report which includes public health indicators. Specifically, Table 33 Criterion Exposure by Geography Relative to all Census Tracts in the State. The table shows the performance of the greater SCAG region for the selected criteria. SCAG performs relatively better for the instances of PM2.5 Concentrations in the air than all other variables. This could be due to the fact that the SCAG region is very large, and 98 percent of the region's population live in Urban Areas, which represent only 13 percent of the region's overall land area. Further, commenter is referred to Appendix 3.3, Health Risk Assessment included in the PEIR which evaluates risk associated with the Plan.

Response ORG 1-7

The comment states the PEIR is in non-compliance with AB 32 because SCAG does not require transportation projects to comply. Regarding AB 32, the commenter is referred to Section 3.8, Greenhouse Gases. As stated on Section 3.8, Greenhouse Gases (p 3.8-39), in December 2017, CARB adopted California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving California's SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels.

As stated on Section 3.8, Greenhouse Gases (p 3.8-39) of the PEIR, "[T]he 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 MMTCO_{2e}, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO_{2e} beyond current policies and programs. Key elements of the 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15."

For the transportations sector, the 2017 Update indicates that while most of the GHG reductions will come from technologies and low carbon fuels, a reduction in the growth of vehicle miles traveled (VMT) is also needed. The 2017 Update indicates that stronger SB 375 GHG reduction targets will enable the State to make significant progress toward this goal, but alone will not provide all of the VMT growth reductions that will be needed. It notes that there is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals. The 2017 Update recommends that local governments consider policies to reduce VMT, including: land use and community design that reduces VMT; transit-oriented development; street design policies that prioritize transit, biking, and walking; and increasing low carbon mobility choices, including improved access to viable and affordable public transportation and active transportation opportunities.

As discussed in Section 3.17, Transportation, Traffic and Safety, CARB and OPR have recommended project-level VMT thresholds of significance in their guidance documents for use in evaluating traffic impacts in CEQA documents. These thresholds are intended to meet statewide GHG emissions targets through VMT reductions from the transportation sector. Both CARB and OPR acknowledge that MPO's are tasked with meeting SB 375 GHG emissions targets, and while CARB has determined that meeting

these targets will not be sufficient to attain state climate goals, more can be done at the project level. At the project level, lead agencies may consider CARB, OPR and other recommended thresholds of significance and determine which ones are appropriate and feasible for an individual project. The discussion of GHG impacts below considers the potential for the region as a whole to meet the CARB and OPR targets.

Further, SCAG does not have approval authority over any of the projects in the Plan. Rather, the projects are selected by the local jurisdictions including cities, counties and county transportation commissions. See **Master Response No. 1: General Comments and Non-CEQA Issues**, **Master Response No. 2 Program EIR vs. Project EIR**, and **Master Response No. 5: Approach to Mitigation Measures**.

Response ORG 1-8

The comment refers to the contents and requirements of AB 617 and asserts that SCAG is in non-compliance with AB 617 because it rubber-stamps and approves all projects and does not require transportation and infrastructure projects to comply with AB 617. AB 617 requires CARB, in consultation with air districts, to select communities for community air monitoring and/or the preparation of community emission reduction programs. AB 617 specifies that the highest priority areas shall be disadvantaged communities with high cumulative exposure burden for criteria pollutants and toxic air contaminants. In response to AB 617, CARB has established the Community Air Projection Program to reduce exposure in communities most impacted by air pollution. While SCAG is monitoring this program, it is not directly involved in implementation of AB 617. Also, SCAG has no specific authority to approve or disapprove transportation projects within the Plan. See **Master Response No. 1 General Comments and Non-CEQA Issues**, **Master Response No. 2: Program EIR vs. Project EIR**, and **Master Response No. 5: Approach to Mitigation Measures**.

Response ORG 1-9

The comment states SCAG approves all projects. On the contrary, SCAG has no specific authority to approve or disapprove transportation projects within the Plan. The comment identifies summaries of SB 44 (comprehensive plan for reducing GHGs from medium and heavy-duty vehicles), SB 210 (develop a heavy-duty inspection and maintenance program for non-gasoline heavy duty truck) and provides summary information regarding SB 375 (regarding SCS requirements that are discussed on page 3.8 -31 in the Regulatory Framework section of the analysis of Greenhouse Gasses). The additional information provided by the commenter further illustrates how the State of California regulates emissions. The PEIR does not identify each and every regulation that would reduce emissions in the state but rather summarizes key regulations applicable to the analysis. Refer to **Master Response No. 1: General**

Comments and Non-CEQA Issues, Master Response No. 2: Program EIR vs. Project EIR, and Master Response No. 5: Approach to Mitigation Measures.**Response ORG 1-10**

The commenter states that SCAG is in non-compliance with Our County – Los Angeles County Sustainability Plan. While there is no specific mandate for the Plan to be consistent with any local plan, SCAG undertook a comprehensive “bottom up” planning approach to ensure overall compatibility with local and regional plans such as the Our County plan (see Chapter 2.0 Project Description). The commenter is referred to Section 3.11, Land Use and Planning (p 3.11-45), which states, “[w]hile the Plan was developed primarily from assumptions derived from local general plans and input from local governments and transportation agencies, SB 375 does not require local land use policies, regulations or general plans to be consistent with the Plan. Also, although the transportation projects and land use strategies included in the Plan are generally compatible with county- and regional-level general plans, local general plans may not have been updated since SCAG’s last adopted 2016 RTP/SCS. As such, it is likely that there could be incompatibilities with existing general plans in the region.

SCAG has no authority to adopt, approve, implement, or otherwise regulate local land use plans or individual projects that are listed in the Connect SoCal Plan. SB 375 specifically provides that a regional transportation plan does not supersede the land use authority of cities and counties. In addition, cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with the Plan. Rather, SB 375 requires the projections of a regional land use pattern integrated with the transportation network and the provision of strategies and recommended policies to reduce per capita GHG emissions from automobiles and light trucks. Local governments reserve their land use authority and may incorporate, as appropriate, the recommended land use strategies, guiding principles, and policies include in the Plan.”

Response ORG 1-11

The comment suggests roles for SCAG in implementing mitigation measures. SCAG does review and submit comments on regionally significant projects through its Intergovernmental Review (IGR) process. As part of this process, projects are reviewed for overall compatibility with Plan policies. SCAG also recommends mitigation measures through this PEIR process. These measures are for both SCAG and local jurisdictions. SCAG’s seeks to work cooperatively and collaboratively with its member agencies. SCAG decisions are made by the SCAG Regional Council which is comprised of representatives of member agencies. Commenter is also referred to **Master Response No. 5: Approach to Mitigation Measures.**

Response ORG 1-12

The comment relates to the role of SCAG. SCAG does not have approval authority over individual projects included in the Plan. Each project undergoes environmental review at the local or state level, depending on the lead agency. SCAG is not the lead agency for any project within the Plan and therefore does not approve environmental documents for projects. Many of the projects included in the Plan have not yet undergone environmental review as they are still in the planning phase. They are programmed within the Plan to allow for federal and/or local funding but there is not sufficient information at that stage to evaluate potential environmental impacts. Further, the Connect SoCal PEIR is a program level document that consists of regional analysis. It does not evaluate any one project in particular detail. It would be speculative to attempt to assess environmental impacts of those projects that have not yet undergone environmental review. See **Master Response No. 2: Program EIR vs. Project EIR**. The PEIR identifies significant impacts to air quality because of anticipated regional increases in certain criteria pollutant emissions and SCAG's lack of authority to impose project-level mitigation measures, and therefore the inability of SCAG to determine if impacts of individual projects would be mitigated to a less than significant level.

Response ORG 1-13

Commenter suggests mitigation measures related to zero emissions. The suggested mitigation measures have not been included for the following reasons, SCAG does not currently have expertise, staffing or funding to create a zero-emissions technology clearinghouse. SCAG, however, does encourage the commenter to participate in SCAG's Emerging Technology Committee which does seek ways to encourage new technologies such as zero emissions technology. Commenter also suggests a mitigation measure for SCAG to request health impact assessments to develop a public health baseline for the region. This measure would not mitigate any particular impact identified within the PEIR and is not within SCAG's purview. However, the comment will be forwarded to the decision maker for their consideration in taking action on the Plan.

Response ORG 1-14

The comment implies SCAG knows the future construction activity of projects in the region. While SCAG maintains a project list, the details of many of the projects are unknown as the projects are still in the planning phase. As such, the specific size and location of future construction activity within the SCAG region is uncertain. See **Master Response No. 2: Program EIR vs. Project EIR**.

Response ORG 1-15

The comment provides a reference for recent reports. The comment does not raise an environmental issue within the meaning of CEQA. The comment will be forwarded to the decision maker for their consideration in taking action on the Plan. See **Master Response No. 1: General Comments and Non-CEQA Issues**.

Response ORG 1-16

The comment suggests the PEIR should include a reference to CARB's Air Quality and Land Use Handbook. Commenter is referred to Section 3.3, Air Quality (p 3.3-42), of the PEIR which includes a summary of this report.

Response ORG 1-17

The comment suggests the PEIR should include a reference to SCAQMD Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. While this document is referenced in several locations in the PEIR Section 3.3 Air Quality, has been updated in **Chapter 10.0, Corrections and Additions** (see changes for page 3.11-38), to provide a full citation to the report.

Response ORG 1-18

The comment requests the above references be added to the PEIR. See **Responses ORG 1-15 through ORG 1-17** above.

Response ORG -19

The commenter suggests the PEIR define the terms "clean up green up" and "buffer zone" in the Land Use section, however, these terms are not used within the land use section. Therefore, no change was made.

Response ORG 1-20

The commenter suggests several terms to be defined in the land use section of the PEIR. Environmental Justice area is defined in the RTP Glossary, disadvantaged communities are defined on page 2 of the Environmental Justice Technical Report. The definition of cumulative impacts is provided in Section 3.21 Cumulative Impacts of the PEIR.

Letter ORG 2: Diamond Bar – Pomona Valley Sierra Club Task Force, Angeles Chapter

Cynthia Robin Smith
Diamond Bar – Pomona Valley Sierra Club Task Force, Angeles Chapter
324 S. Diamond Bar Blvd, #230
Diamond Bar, CA 91765

January 24, 2020

Response ORG 2-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001543* of the Final Connect SoCal Plan.

Response ORG 2-2

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001543* of the Final Connect SoCal Plan.

Response ORG 2-3

The comment provides information on sensitive species specific to the Diamond Bar area and requests the included information be added to the PEIR and Plan. Due to the scope and scale of the six county-wide SCAG region, analyses were limited to plants, animals, and habitats listed in regional databases with georeferenced known locations (such as the California Natural Diversity Data Base, or CNDDDB). The impact analysis reviewed potential environmental impacts to sensitive biological resources from a regional perspective and is programmatic in nature. As such, Lead Agencies for each individual project will determine the level of environmental review required for subsequent project-level evaluation of individual projects.

Section 3.4, Biological Resources, Figure 3.4-2, Sensitive Wildlife Species Reported in the SCAG Region, does capture and show CNDDDB records of gnatcatchers within the northern portion of the City of Diamond Bar Natural Open Space Area (record from 2017), but as this is a regional analysis these are difficult to see at this scale. As indicated in the PEIR, the regional records are incomplete and likely do not show all sensitive species or habitats present in a given area and project specific surveys should be required by the Lead Agency for subsequent project-level evaluation of individual projects. The updated City of Diamond Bar biological information should be included in these future studies. See **Master Response No. 2: Program EIR vs. Project EIR**.

Response ORG 2-4

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001543* of the Final Connect SoCal Plan.

Letter ORG 3: Sierra Club, Moreno Valley

George Hague
Sierra Club
Moreno Valley Group
P.O. Box 1328
Moreno Valley, CA 92556

January 24, 2020

Response ORG 3-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001538* of the Final Connect SoCal Plan.

Letter ORG 4: The Two Hundred

John Gamboa
Vice-Chair
The Two Hundred
1918 University Avenue, Suite 3C
Berkeley, CA 94704

No Date

Response ORG 4-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-2

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-3

The comment is a set of general objections to the PEIR. Individual comments are responded to below. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-4

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-5

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-6

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Response ORG 4-7

The comment presents a set of general objections to the Connect SoCal land use plan and states the PEIR should evaluate the environmental consequences of an “economically infeasible” Plan. SCAG’s land use plan was developed in partnership with demographers, local jurisdictions, and housing experts and represents several years of collaboration and research. While it may be true that current housing prices in

many parts of Southern California are beyond the reach of moderate and low wage workers, it is wholly speculative to suggest that these conditions and other theoretical conditions such as “an explosion of ‘supercommuters’” are attributable to the Plan. An economic impact analysis is not appropriate under CEQA unless physical changes to the environment attributable to the project could occur as a result. Section 21082.2(c) of the Public Resources Code states that lead agencies need not consider: “evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment.” As such, the PEIR does not speculate as to economic conditions, but rather it evaluates the reasonably foreseeable environmental consequences based on reasonable assumptions. The commenter is referred to Section 3.14, Population and Housing, which discusses the issues such as displacement and gentrification and the fact that there is no reasonable method to identify how many people could be displaced and where they could move to and therefore no feasible way to identify any potential impacts on transportation, air and noise as a result of these changes (pages 3.14-27 to 3.14-28).

Response ORG 4-8

The comment is a set of general objections to the Plan’s strategies and CARB’s GHG reduction targets. The Connect SoCal Plan and PEIR does not establish regional or project-level VMT reduction targets. SCAG along with other MPOs in the state are required, pursuant to SB 375, to develop a SCS to meet established GHG reduction targets by using a combination of VMT reducing strategies. As recognized by CARB, MPOs do not have land use authority to implement additional VMT reductions. As such, CARB has issued project-level VMT reduction targets to further reduce GHG emissions. While the commenter may disagree with CARB and its project-level VMT targets, and the use of VMT reduction strategies in the Plan, SCAG nonetheless is required to develop an SCS and address GHG reduction targets through reductions in per capita VMT. Refer to **Master Response No. 6: Vehicle Miles Traveled (VMT Analysis)**.

Response ORG 4-9

The comment references a lawsuit filed against CARB and suggests adverse physical impacts would occur as a result of higher housing costs. SCAG disagrees with the commenters premise that the construction of infill housing would necessarily result in higher housing prices overall and additional physical impacts. This PEIR analyzes the potential physical impacts of the anticipated build out of the Plan through 2045 and analyzes a variety of housing types, urban, suburban, rural, townhome, apartment accessory dwelling unit. All types of housing, including affordable and market rate housing, are captured within the analysis in this document. The impacts of housing, growth, and transportation are all linked together over the course of the Plan. While there could be some variation in better/worse impacts depending on the land use pattern ultimately adopted by the region (as demonstrated in the alternatives analysis), in general impacts of housing (all housing) are captured within this PEIR. The PEIR appropriately analyzes the environmental effects of what is reasonably foreseeable to occur as a result of

the Plan. The Plan was developed by numerous experts in housing and demographics who identify expected Plan outcomes based on professional expertise. For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan.

Response ORG 4-10

The comment relates to the RHNA process and the PEIR cumulative analysis. Again, SCAG disagrees with the commenter that the existing need is cumulative to the Plan. Refer to **Master Response 7: Regional Housing Needs Assessment**.

Response ORG 4-11

The comment relates to mitigation measures. SCAG has identified both SCAG mitigation measures and mitigation measures for project sponsors. Commenter is referred to **Master Response 5: Approach to Mitigation Measures** and to the Executive Summary of the PEIR which includes a listing of SCAG and project level mitigation measures.

Response ORG 4-12

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan. For additional information regarding affordable housing, please refer to the revised Sustainable Communities Strategy report of the Final Connect SoCal Plan.

Response ORG 4-13

The comment presents a summary of the commenter's above comments regarding the PEIR. These comments are responded to individually above.

Response ORG 4-14

The comment presents a set of general objections to CARB and SCAG. These comments are responded to individually above.

Response ORG 4-15

The commenter suggests SCAG advocate for a one-year extension for its conformity determination and PEIR to pursue legal action. SCAG has undertaken the Plan and the RHNA processes with opportunities for full participation of its member agencies and stakeholders, and the approval and guidance of state and federal agencies as applicable.). At this time, SCAG does not see a reason to delay approval of Connect SoCal and the PEIR at the risk of a conformity lapse. SCAG's current conformity finding on its 2016 RTP/SCS expires in June 2020. Pursuant to the federal Clean Air Act and the federal Transportation Conformity Regulations, the Connect SoCal is required to receive federal approval of its final

transportation conformity determination by June 1, 2020. In addition, there is no statutory nor regulatory provisions for any extension of transportation conformity determination. Finally, contrary to the commenter's assertion, SANDAG did not receive a one-year extension for its conformity determination.

With regards to the PEIR, the PEIR was available beginning December 9, 2019 through January 24, 2020, for a total of 46 days. *CEQA Guidelines* Section 15105 states, "[t]he public review period for a draft EIR shall not be less than 30 days nor should it be longer than 60 days except in unusual circumstances.

As demonstrated in the responses herein, SCAG has prepared a lawful and effective Plan and associated PEIR; there is no reason for a one-year extension or legal action.

Response ORG 4-16

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001443* of the Final Connect SoCal Plan.

Letter ORG 5: Westwood South of Santa Monica Blvd Homeowner's Association

Barbara Broide, President
Westwood South of Santa Monica Blvd Homeowner's Association
P.O. Box 64213
Los Angeles, CA 90064

January 24, 2020

Response ORG 5-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001439 and 0001440* of the Final Connect SoCal Plan.

Letter ORG 6: ARSAC Alliance for a Regional Solution to Airport Congestion

Denny Schneider, President
Robert Acherman, Vice President
ARSAC Alliance for a Regional Solution to Airport Congestion
7929 Breen Ave
Los Angeles, CA 90045

January 24, 2020

Response ORG 6-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438* of the Final Connect SoCal Plan.

Response ORG 6-2

The comment relates to the public comment period for the PEIR. The PEIR was available beginning December 9, 2019 through January 24, 2020, for a total of 46 days. *CEQA Guidelines* Section 15105 states, “[t]he public review period for a draft EIR shall not be less than 30 days nor should it be longer than 60 days except in unusual circumstances. When a Draft EIR is submitted to the State Clearinghouse for review by state agencies, the public review period shall not be less than 45 days, unless a shorter period, not less than 30 days, is approved by the State Clearinghouse.” No unusual circumstances have occurred which would justify extending the comment period.

Response ORG 6-3

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438* of the Final Connect SoCal Plan.

Response ORG 6-4

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438* of the Final Connect SoCal Plan. The comment suggests LAX is the fourth busiest airport rather than the fifth. See 10.0 Corrections and Additions for page 1.0-4.

Response ORG 6-5

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438*. The comment suggests noise contours for reliever airports should be included in Appendix 3.13. Reliever airports represent a minor percentage of regional aviation noise, and therefore were not evaluated. The comment also asks if emissions for these airports are accounted for in the GHG and air quality sections. Emissions associated with these airports are captured within the AQMP and other regional scale air quality documents which are complementary to the Plan. Please refer to the revised Aviation Technical Report of the Final Connect SoCal Plan.

Response ORG 6-6

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438* of the Final Connect SoCal Plan.

Response ORG 6-7

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001438* of the Final Connect SoCal Plan.

Letter ORG 7: Los Angeles County Business Federation

Sandy Sanchez
David Fleming
Tracy Hernandez
Los Angeles County Business Federation (BizFed)
6055 E. Washington, Blvd. #1005
Commerce, CA 90040

January 24, 2020

Response ORG 7-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001524* of the Final Connect SoCal Plan.

Letter ORG 8: Center for Biological Diversity

Tiffany Yap, D. Env/Ph.D
Scientist, Wildlife Corridor Advocate
1212 Broadway, Suite #800
Oakland, CA 94612

January 24, 2020

Response ORG 8-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Response ORG 8-2

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Response ORG 8-3

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Response ORG 8-4

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Response ORG 8-5

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Response ORG 8-6

The Draft Program Environmental Impact Report (PEIR) found that implementation of the Plan would have significant and unavoidable impacts to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service (Impact BIO-1, Section 3.3, Biological Resources). At the time of the preparation of the PEIR, mountain lions were not candidate or listed species by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service. Discussions for listing this species are currently underway with CDFW. However, as stated above, at time of the preparation of this PEIR, mountain lions are not listed.

In addition, due to the scope and scale of the analysis of the six county-wide SCAG region, analyses were limited to plants, animals, habitats, and other natural resource information listed in regional databases with georeferenced known locations (such as the California Natural Diversity Data Base, or CNDDB). Data for mountain lions are not currently tracked in these databases. The impact analysis reviewed potential environmental impacts to sensitive biological resources from a regional perspective and is programmatic in nature. As such, Lead Agencies for each individual project will determine the level of environmental review required for subsequent project-level evaluation of individual projects. Should mountain lions be listed or a candidate species in the future, or if otherwise required by the Lead Agency, it will need a full analysis in project-specific environmental documents.

The PEIR also found that the Plan would interfere substantially with the movement of any native resident or migratory fish or wildlife species, such as mountain lion, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites and would result in a significant and unavoidable impact (Impact BIO-4, Section 3.3, Biological Resources). Numerous project level mitigation measures were identified for migratory species (including mountain lions). These measures included consulting with “wildlife corridor authorities”; counties, cities, and other local organizations; USFS, CDFW, and USFWS and other agencies for projects that could impact wildlife corridors or migration for project planning. The PEIR also included project-specific mitigation measures to: design proposed projects to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors; conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site; analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor; require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation; pursue mitigation banking to preserve habitat linkages and corridors; design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches; evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat; to provide wildlife crossings in accordance with proven standards; and, where avoidance is not feasible, to design sufficient conservation measures through coordination with local agencies and the regulatory agencies (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites.

The potential for climate change to heighten impacts to natural resources, endangered, threatened, or sensitive species and wildlife movement was discussed in several parts of the biology sections and impact analysis for natural resources. Future specific projects should at a minimum include consideration for

rising sea levels, increased temperatures, decreased water availability and/or altered precipitation patterns, and invasive species infestations. As described in the PEIR, special status species are most susceptible to climate change due to their small population sizes and, often, specific suitable habitat conditions required for their survival. The combination of project impacts and climate change can further reduce available habitat, reduce movement opportunities for wildlife, provide new corridors for invasive species infestations, and increase the risk of fires in open space to the detriment of special status species. Several project-level mitigation measures are recommended to help address some impacts of climate change including habitat restoration, invasive species control plans, wildlife corridor redundancy, artificial movement corridors, and other measures.

Response ORG 8-7

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001444 and 0001445* of the Final Connect SoCal Plan.

Letter ORG 9: Center for Demographic Research

Deborah Diep, Director
Center for Demographic Research
1121 N. State College Blvd, Suite 238
Fullerton, CA 92833

January 24, 2020

Response ORG 9-1

The comment provides a set of introductory comments. No specific response is necessary. For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001560 and 0001561* of the Final Connect SoCal Plan.

Response ORG 9-2

The comment provides further introductory comments. No specific response is necessary.

Response ORG 9-3

The comment requests clarification on the identified terms. The following terms are defined in the RTP/SCA glossary: Livable Corridors, Neighborhood Mobility Areas. The remaining terms have been added to the glossary See Chapter 10.0 Corrections and Additions for page 7.0-1. Definitions for “orientation”, “timing” “mobility options” and “destinations” are not provided as they are common terms.

Response ORG 9-4

The sources for tables have been updated as appropriate. See **Chapter 10.0, Corrections and Additions**.

Response ORG 9-5

The comment suggests all interpolated data should be marked in tables. See **Master Response No. 3: Baseline Conditions**. As described in the master response, the base year for the Plan is 2016. For purposes of the PEIR, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Available data that differs from this generalized explanation and used to determine existing conditions is specified in each topical section in Chapter 3.0, Environmental Impact Analysis and Mitigation Measure.

Response ORG 9-6

The comment requests clarification regarding lane miles. See **Chapter 10.0, Corrections and Additions**, for page ES-9.

Response ORG 9-7

The comment requests an edit. The requested edits were not made as they are not necessary to the text.

Response ORG 9-8

The comment suggests replacing the word “foresee” with “envision.” The comment suggests an edit. See **Chapter 10.0, Corrections and Additions**, for page ES-9.

Response ORG 9-9

The comment suggests adding the words “to replace the gas tax”. The suggested edit was not made. See response to **SUB 1-14** and **SUB 1-20**.

Response ORG 9-10 through ORG 9-23

Refer to **Response SUB 1-9** regarding “where applicable and feasible” language in mitigation measures.

Response ORG 9-24

The comment relates to SCAG committees. Refer to **Response SUB 1-50**.

Response ORG 9-25

The comment suggests all interpolated data should be marked in tables. Refer to **Response ORG 9-5**.

Response ORG 9-26

The comment points to a typographical error. See **Chapter 10.0 Corrections and Additions** for page 1.0-13.

Response ORG 9- 27

The comment requests clarification on the accelerated tomorrow alternative. See **Chapter 10.0, Corrections and Additions**, for page 1.0-15.

Response ORG 9-28

The comment provides suggested edits. See **Chapter 10.0, Corrections and Additions**, for page 3.11-3.

Response ORG 9- 29

The comment provides suggested edits. See **Chapter 10.0, Corrections and Additions**, for page 3.11-5.

Response ORG 9- 30

The comment relates to SCAG committees. Refer to **Response SUB 1-50**.

Response ORG 9- 31

The comment suggests an edit. See **Chapter 10.0 Corrections and Additions**, for page 3.11-12.

Response ORG 9-32

The comment suggests an edit. See **Chapter 10.0 Corrections and Additions**, for page 3.11-15.

Response ORG 9-33

The comment suggests an edit. See **Chapter 10.0, Corrections and Additions** for page 3.11-20.

Response ORG 9-34

The comment requests clarification on the coastal zone. See **Chapter 10.0, Corrections and Additions** for page 3.11-22.

Response ORG 9-35

The comment suggested additional language regarding the HCD RHNA determination to page 3.11-32 of the PEIR. Refer to **Response to SUB 1-52**.

Response ORG 9-36

The comment suggests an edit to page 3.11-32 of the PEIR. See **Chapter 10.0 Corrections and Additions** for page 3.11-32.

Response ORG 9-37

The comment suggests additional narrative for page 3.11-33 regarding the HCD and RHNA process. Refer to **Response SUB 1-52**.

Response ORG 9- 38

The comment suggests an edit that is not necessary.

Response ORG 9-39

The comment requests clarification on regional policies. In the context of this sentence “regional policies” refers to policies that go beyond local jurisdictions. Examples include promote a green region, promoting low emission technologies, planning for growth near transit investments, and promoting the redevelopment of underperforming retail development. Additional policies are in Chapter 2.0 Project Description of the PEIR and in the Plan.

Response ORG 9-40

The comment requests clarification on the statement regarding individual numbers. See **Chapter 10.0 Corrections and Additions** for page 3.11-45.

Response ORG 9- 41

The comment provides suggested edits, see **Chapter 10.0 Corrections and Additions** for page 3.11-45.

Response ORG 9- 42

The comment requests clarifications on where general plans are applicable. General plans are applicable within each city or county. According to state law, “[d]ecisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved statewide goals and policies directed to land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors.” (Gov Code § 65030.1) Because general plans apply within cities and counties, areas outside of a city or county, such as federally managed lands, might not be subject to general plans.

Response ORG 9-43

The comment suggests an edit. See **Chapter 10.0, Corrections and Additions**, for page 3.14-1.

Response ORG 9- 44

The comment requests additional information added to the definition of “housing” provided on page 3.14-1. Details requested including source information are provided on page 3.14-1.

Response ORG 9-45

The comment requests clarification on why jurisdictions may have different housing unit definitions. Local jurisdictions have discretion in terms of how a housing unit is defined.

Response ORG 9-46

The comment requests an update to the source on page 3.14-2. The source used to determine the approximate number of residents in the SCAG region was determined in 2018 and was referenced properly. No update is needed. See also **Master Response No. 3: Baseline Conditions**.

Response ORG 9- 47

The comment requests modifications to the sources in Table 3.14-1, Population Growth in the SCAG Region (2000-2019). All sources have been updated as appropriate.

Response ORG 9- 48

The comment suggests an edit. See **Chapter 10.0, Corrections and Additions**, for page 3.14-4.

Response ORG 9- 49

The comment requests modifications to the source for Table 3.14-2. See **Chapter 10.0, Corrections and Additions**, for page 3.14-4.

Response ORG 9- 50

The comment suggests edits to the source information regarding household income. The data and source as stated are correct.

Response ORG 9- 51

The comment suggests edits to source information for Table 3.14-3, Household Size in the SCAG Region (Persons). See **Chapter 10.0, Corrections and Additions**, for page 3.14-5.

Response ORG 9- 52

The comment suggests edits to source information for Table 3.14-4, Poverty Rates in the SCAG Region (1990-2017). See **Chapter 10.0, Corrections and Additions** for page 3.14-6.

Response ORG 9- 53 and ORG 9-54

The comment relates to source information for Table 3.14-5, 2019 Employment by County, 3.14-6, Employment Growth for 2000 to 2019, Table 3.14-7, Unemployment Rates and 3.14-8, 2019-2045 Population, Households, and Employment Projections in the SCAG Region. Table sources have been updated as appropriate; see **Chapter 10.0 Corrections and Additions**.

Response ORG 9- 55

The comment relates to guiding principles of the Plan. See **Chapter 10.0 Corrections and Additions** for page 2.0-21.

Response ORG 9- 56

The comment relates to RHNA. See **Responses SUB 1-58 and SUB 1-52 and Master Response No. 7: Regional Housing Needs Assessment**.

Response ORG 9-57

The comment presents a text change. See **Chapter 10.0, Corrections and Additions**, for page 3.14-20.

Response ORG 9-58

The comment presents a text change. See **Chapter 10.0, Corrections and Additions**, for page 3.14-23.

Response ORG 9- 59

The comment presents a text change portions of the text were not changed as the suggested word choice did not accurately reflect the intent of the statement. Refer to **Chapter 10.0, Corrections and Additions**, for page 3.14-27.

Letter ORG 10: Climate Resolve

Jonathan Parfrey Executive Director
Climate Resolve
525 Hewitt St.
Los Angeles, Ca 90013

January 24, 2020

Response ORG 10-1

The comment provides a set of introductory comments. No specific response is necessary. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001558* of the Final Connect SoCal Plan.

Response ORG 10-2

The commenter asserts that it is insufficient to use 2012 GHG emission data in 2020 and recommends SCAG blend-in CARB data to evaluate emissions. See **Response ORG 10-16** for a more detailed response to this summary comment.

Response ORG 10-3

The commenter states that the Public Health subsection, on Section 3.8, Greenhouse Gases (page 3.8-16), of the Draft PEIR, is insufficient and includes recommendations. See Response ORG 10-18 for a more detailed response to this summary comment.

Response ORG 10-4

The commenter states that an assessment of compliance with SB 379, SB 1000, and LHMPs should be added to Table 3.8-4 California Jurisdictions Addressing Climate Change in the SCAG Region (2019). The commenter states that Climate Resolve is willing to share this information with SCAG. See **Response ORG 10-22** for a more detailed response to this summary comment.

Response ORG 10-5

The commenter states that Final PEIR should state California's current position on GHG reduction, specifically referring to EO B-55-18 that commits the state to carbon neutrality by 2045. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-37.

Response ORG 10-6

The comment suggests specific edits to Section 3.8, Greenhouse Gases, that relates to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-1.

Response ORG 10-7

The comment suggests specific edits to Section 3.8, Greenhouse Gases, related to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions** for page 3.8-1.

Response ORG 10-8

The comment suggests specific edits to Section 3.8, Greenhouse Gases, related to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions** for page 3.8-2.

Response ORG 10-9

The comment suggests specific edits to Section 3.8, Greenhouse Gases, relates to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0 Corrections and Additions**, for page 3.8-3.

Response ORG 10-10

The comment suggests specific edits to Section 3.8, Greenhouse Gases, related to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-5.

The commenter also states that SCAG should have included peer-reviewed climate studies with their analysis. A discussion of the State of California’s Fourth Climate Assessment is included in Section 3.8. See **Chapter 10.0, Corrections and Additions**, for page 3.8-5.

Response ORG 10-11

Climate Resolve notes that on Section 3.8, Greenhouse Gases (p 3.8-6), SCAG referenced global glacier loss and recommends that SCAG cite California specific glacier loss information from the 2018 OEHHA climate indicators and cite the report for migration of species. This information was added to Section 3.8, Greenhouse Gases. See **Chapter 10.0, Corrections and Additions**, for page 3.8-6.

Additionally, Climate Resolve recommends that reference 10 be updated to more recent snowmelt information. The change to snowmelt information from California’s Fourth Climate Change Assessment has been made in Section 3.8, Greenhouse Gases. See **Chapter 10.0, Corrections and Additions**, for page 3.8-6.

Response ORG 10-12

The comment suggests specific edits to Section 3.8, Greenhouse Gases, related to GHG emissions. Additionally, the commenter recommends adding reference to a wildfire study by Jin, Randerson, et al and reports published by the Southern California Coastal Water Research Project. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-8.

Response ORG 10-13

The comment suggests adding regionally specific studies related to flood events. A discussion of the flood risks presented in the Santa Ana Watershed Basin is included in Section 3.8, Greenhouse Gases. See **Chapter 10.0, Corrections and Additions**, for page 3.8-9. The Los Angeles Basin and Southeast Basin Studies were not included in this discussion as these studies only evaluated the future water demand and supply and did not address flooding events in the region.

Response ORG 10-14

The comment suggests including an analysis of the global cumulative GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-11.

Response ORG 10-15

The commenter asserts that Table 3.8-3, GHG Emissions in California (2000 and 2017) is based on IPCC GHG emissions data and questions why CARB data was not used within the table. However, the numbers in the Table 3.8-3 reflect CARB's latest GHG data, the information is simply split by IPCC category. The table states that the total GHG emissions within the state of California in 2017 was approximately 424.1 MMT CO₂e, comprised of 39.8% transportation emissions. Similarly, review of CARB's *California Greenhouse Gas Emissions Inventory: 2000-2017* Report demonstrates that CARB estimated the state's 2017 GHG emissions to be 424 MMT CO₂e and transportation accounts for 40%. Therefore, CARB data was used within Table 3.8-3 and revisions are not required.

Response ORG 10-16

The commenter asserts that it is incorrect to use 2012 GHG data to analyze emissions within the SCAG region and suggests using statewide GHG emissions. As stated in Section 3.8, Greenhouse Gases, the most recent GHG emissions data by sector for the SCAG region is from 2012. This information was appropriately used. More recent statewide emissions are presented in Table 3.8-3 to demonstrate emissions by sector across the state, however the information from 2012 is to demonstrate the difference in GHG sector emissions that make up the SCAG region as compared to the state. Section 3.8 was revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-14.

Response ORG 10-17

According to the SCAQMD's Appendix VI: Black Carbon Measurements at Fixed Sites from the *MATES IV Final Report*, black carbon is a component of both fine and coarse particulate matter (PM₁₀ and PM_{2.5}). While black carbon is unregulated, federal and state regulations of PM_{2.5} and PM₁₀ have resulted in significant declines in PM concentrations. Regulations and reduction strategies can control atmospheric concentrations of black carbon either by directly reducing diesel emissions or indirectly by reducing total

PM emissions.⁴¹ The Port of Los Angeles and the Port of Long Beach each have created incentive programs in order to reduce diesel emissions at the ports from ships, including: (1) Vessel Speed Reduction in order to reduce ship speeds up to 40 nautical miles from entering the harbor; (2) Port of Los Angeles Environmental Ship Index to provide financial incentives for ships with the newest engines; (3) Port of Long Beach's Green Ship Incentive Program to provide financial incentives for ships with the newest engines; and (4) Shore Power requiring ships to plug into the electrical grid while loading and unloading cargo rather than idling with auxiliary engines.⁴²

In the Final PEIR, project-level mitigation has been added to PMM-AQ-1 to encourage relevant projects to engage in these programs, which will reduce diesel emissions and black carbon at the ports. Therefore, while black carbon emissions are not specifically quantified within the Draft PEIR, they are expected to decrease by the Plan horizon year. See **Chapter 10.0, Corrections and Additions**, for page 3.8-15.

Response ORG 10-18

The comment suggests that the "Public Health" sub-section is insufficient and recommends relevant studies in order to enhance the section. The comment also suggests specific edits to Section 3.8, Greenhouse Gases, which relates to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0 Corrections and Additions** for page 3.8-16.

Response ORG 10-19

The comment suggests specific edits to Section 3.8, Greenhouse Gases, related to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-17.

The comment also suggests that the seven adaption strategies listed to shift community design are insufficient and SCAG should consider including more strategies. As stated within the Draft PEIR, SCAG is not limited to the strategies listed with Section 3.8, Greenhouse Gases. Regardless, Section 3.8 is revised to reflect this comment. See **Chapter 10.0 Corrections and Additions**.

Response ORG 10-20

The comment suggests specific edits to Section 3.8, Greenhouse Gases, which relates to state regulations. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-27.

⁴¹ SCAQMD. *Appendix VI Mates IV Final Report*. Available online at: <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/f-appendix.pdf?sfvrsn=7>, accessed February 19, 2020.

⁴² Clean Air Action Plan. *Ships*. Available online at: <https://cleanairactionplan.org/strategies/ships/>, accessed February 19, 2020.

Response ORG 10-21

The comment suggests specific edits to Section 3.8, Greenhouse Gases, which relates to local regulations. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-49.

Response ORG 10-22

The comment suggests specific edits to Section 3.8, Greenhouse Gases, which relates to local regulations. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**, for page 3.8-51

The comment also requests SCAG to updated Section 3.8, Greenhouse Gases, to include hyperlinks within Table 3.8-4, California Jurisdictions Addressing Climate Change in the SCAG Region (2019), to direct readers to an individual plan and not to the municipalities' websites. Many municipalities include several reduction plans. For example, the City of Burbank includes a GHG Reduction Plan, Climate Action Plan, Sustainability Plan, General Plan Policy, and General Plan Implementation Measures that all address GHG emissions in the City. Providing the hyperlink to the municipality's website allows readers to find each of these documents instead of linking the reader to one of them.

The comment suggests adding columns to Table 3.8-4 that identifies municipalities that include GHG reduction policies and/or climate change adaptation strategies within their general plans to sense how well each general plan assesses climate change. The table already includes columns to list municipalities that include GHG policies or adaption strategies within the General Plan, see columns titled "General Plan Policy" and "General Plan Implementation Measures." SCAG acknowledges that some cities prepare an adaptation plan or resilience plan within the general plans, however the intent of the table is to demonstrate which municipalities are providing policies, programs, and plans to reduce GHG emissions and prepare for climate change, not the extent to which the General Plan addresses these issues.

The comment suggests adding an assessment of compliance with SB 379, SB 1000, and LHMPs which can be provided by Climate Resolve. SCAG thanks Climate Resolve for being willing to share this information and may request this information for the analysis of future documents.

Response ORG 10-23

The comment suggests specific edits to Section 3.8, Greenhouse Gases, which relates to GHG emissions. Section 3.8 is revised to reflect this comment. See **Chapter 10.0, Corrections and Additions**.

Response ORG 10-24

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001558* of the Final Connect SoCal Plan.

Letter ORG 11: Daniel Burruel

Daniel Burruel
Keep Nuevo Rural

No Date

Response ORG 11-1

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001309* of the Final Connect SoCal Plan. The comment is generally supportive of open space conversation and wildlife corridors and expresses opposition to a specific project in the unincorporated community of Nuevo. SCAG does not have land use authority to approve or disapprove local plans. See **Master Response No. 2: Program EIR vs. Project EIR.**

Letter ORG 12: UNITE HERE

Charles Du, Staff Attorney
 UNITE HERE Local 11
 464 Lucas Ave, Suite 201
 Los Angeles, CA 90017

January 24, 2020

Response ORG 12-1

The commenter introduces themselves and their interests. No specific response is required. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001448* of the Final Connect SoCal Plan.

Response ORG 12-2

The commenter introduces the specific comments below. See specific responses below. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001448* of the Final Connect SoCal Plan.

Response ORG 12-3

The commenter questions the GHG targets and references Table 3.8-10, SB 375 Analysis. Table 3.8-10 identifies per capita GHG emissions from cars and light duty trucks (in accordance with SB 375) for the years 2005 (Baseline), 2020 (Plan) and 2035 (Plan) and identifies reductions 2020 Plan compared to 2005 baseline and 2035 Plan compared to baseline. Table 3.8-10 shows that the SCAG Region would achieve the emissions reductions targets (-8% 2005 to 2020 and - 19% 2005 to 2035). The SB 375 reduction targets are established by CARB in accordance with the requirements of SB 375. SB 375 is discussed starting on Section 3.8, Greenhouse Gases (p 3.8-31). CARB Target Setting is a complex process involving many steps. Commenter is referred to the CARB web site for further information on target setting.⁴³ CARB does not set specific targets for individual counties or other jurisdictions within the SCAG region. SCAG has not developed such targets either. Individual jurisdictions within the SCAG region are responsible for ensuring consistency with the RTP/SCS and associated targets. SB 375 included CEQA streamlining provisions for certain types of projects (See Chapter 1.0, Introduction (p 1.0-23)).

Response ORG 12-4

The commenter questions what type of projects the SB 375 targets are applicable to. As noted in **Response ORG 12-3** above, individual jurisdictions may use the SB 375 targets as they see fit. SB 375 provides CEQA streamlining for transit priority projects as well as residential and mixed-use residential projects.

⁴³ <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets>; accessed February 14, 2020

Response ORG 12-5

The commenter questions how the term “per capita” is to be applied – whether to residential or residents and employees. At the regional scale the per capita calculation is total miles divided by total population; therefore, at the regional scale only residents are included in the calculation. However, at smaller scales, each jurisdiction must determine how to calculate per capita emissions for employment and mixed-use projects. Ignoring emissions from projects that include an employment component may lead to GHG impacts of an individual project being underestimated.

Response ORG 12-6

The commenter asks about the trajectory of emissions. The trajectory is for SB 375 and total GHG emissions to continue decreasing. SB 375 does not have interim target years or target years beyond 2035. However, other regulations have targets for total emissions for interim years and years beyond 2035 – see discussion starting on Section 3.8, Greenhouse Gases (p 3.8-73) regarding consistency of the Proposed Plan with these regulations.

Response ORG 12-7

The commenter asks why EMFAC2007 is used to calculate 2005 emissions and EMFAC2014 is used for 2020 and 2035. EMFAC2007 includes emission factors for the year 2005; EMFAC 2014 does not. EMFAC2014 was the most recent emission factor modeling tool available when analysis of the Connect SoCal Plan began. See **Master Response No. 4: Technical Process/Modeling**.

Response ORG 12-8

The commenter refers to Table 3.8-11, Population and VMT (2019 and 2045), and how “targets” identified in this table were developed. Table 3.8-11 identifies total population, total VMT and VMT per capita for light duty vehicles and all vehicles. The table does not identify targets, it identifies results of the SCAG modeling. See **Master Response No. 4: Technical Process/Modeling** regarding SCAG’s overall modeling process.

Response ORG 12-9

The commenter asks about whether these VMT “targets” are for all project types. See **Response LOC 12-4**. Also, as discussed in **Response ORG 12-3** above the emissions are calculated based on total VMT in the region divided by total population in the region. As indicated in **Response ORG 12-5**, at scales smaller than the region, different jurisdictions may choose to calculate GHG emissions from an individual project based on both residential population and employment in order to appropriately assess project impacts.

Response ORG 12-10

The commenter asks about the trajectory of VMT reductions and interim year targets. SCAG is not required to meet any regional VMT reduction target, rather only the GHG reduction targets set by CARB. Section 3.8, Greenhouse Gases, Table 3.8-10, SB 375 Analysis, shows 2020 and 2035 GHG reductions. Similarly, the trajectory of per capita VMT is downward. . Other jurisdictions have recommended VMT targets, see discussion starting on Section 3.17 Transportation, Traffic and Safety (p 3.17-53).

Response ORG 12-11

The commenter asks to clarify if the VMT are from residential population or also employees. See **Response ORG 12-9**.

Response ORG 12-12

The commenter asks what data/metrics are specific to employee trips. As noted in **Response ORG 12-9**, SCAG calculates per capita VMT only based on total population. For jurisdictions that evaluated per capita VMT for employment projects, each jurisdiction must decide on relevant data and calculation methodology.

Response ORG 12-13

The commenter asks about VMT projections for residential and employee populations and disaggregated data for cities and counties within the SCAG Region. SCAG did not calculate VMT at a scale smaller than the region. Each jurisdiction is responsible for determining consistency with the Connect SoCal Plan including the regional GHG targets. Each jurisdiction is responsible for assessing transportation/VMT impacts for individual projects in accordance with methodologies established by each jurisdiction. See **Master Response No. 2 Program EIR vs. Project EIR**.

Response ORG 12-14

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001448* of the Final Connect SoCal Plan.

Response ORG 12-15

The commenter provides introductory text to the specific comments (12-16 through 12-21) below, regarding four specific SCAG GHG mitigation measures (SMM GHG-1 through SMM GHG-4, Section 3.8, Greenhouse Gases [p. 3.8-68]). See responses to specific comments below.

Response ORG 12-16

The commenter questions language in the mitigation measures and whether the language represents enforceable performance standards. The mitigation measures require SCAG to “continue to work with”

local agencies, “encourage efficient design” and “pursue partnerships.” SCAG is a regional agency with no authority over local jurisdictions. The mitigation measures include enforceable language (SCAG can monitor whether they have worked with local agencies, encouraged efficient design and sought out partnerships. See **Master Response No. 5: Approach to Mitigation Measures**.

Response ORG 12-17

The commenter asks what would be required to satisfy the measures. To satisfy these mitigation measures SCAG must be able to document that they worked with local agencies, encouraged efficient design and sought out partnerships. SCAG monitors mitigation measures through two primary ways, first, SCAG has prepared a mitigation monitoring and reporting program for this PEIR which details the measure and the party responsible for monitoring implementation. Second, SCAG comments on project level EIRs of regional significance through its Intergovernmental Review (IGR) process. As part of this process, SCAG can comment on project level mitigation measures.

Response ORG 12-18

The commenter asks what specific criteria can be used to objectively determine compliance with the measures. To document compliance with these measures SCAG can use meeting minutes, published programs, policies and grants as well as other documentation of their efforts to comply with these measures. See **Response ORG 12-17**.

Response ORG 12-19

The commenter asks what specific performance-based criteria apply to non-specific measures. The mitigation measures are written in order to allow each jurisdiction to apply performance criteria based on their individual location, constraints and specific priorities and judgments. See **Master Response No. 5: Approach to Mitigation Measures**

Response ORG 12-20

The commenter asks why the mitigation measures do not require specific actions to meet specific reduction targets. The reason that SCAG does not include specific targets for local jurisdictions is because SCAG has no authority over local jurisdictions and imposing such targets on local jurisdictions would be outside SCAGs jurisdiction and authority. In addition, each jurisdiction in the SCAG region has vastly different circumstances, determining appropriate targets for each jurisdiction would require considerable data as well as local-level decision-making to determine what is appropriate. See **Master Response No. 5: Approach to Mitigation Measures**.

Response ORG 12-21

The commenter asks what mitigation measures were found infeasible. During the development of the PEIR, SCAG sought input from the agencies, organizations and the public on the scope of the environmental document. SCAG also held public workshops specifically to gain input on the mitigation measures. During that process, SCAG did not identify any mitigation measures that were found infeasible. SCAQMD suggested mitigation measures that SCAG is not incorporating into the Final PEIR. In each instance SCAG explains why it has not added the measure. See **Responses REG 2-25** and **REG 2-26**.

Response ORG 12-22

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001448* of the Final Connect SoCal Plan.

Response ORG 12-23

Commenter references comments above and requests notice of all CEQA actions or hearings. See detailed responses above. Commenter will receive notice of the availability of the Final EIR and scheduled actions on the Connect SoCal Plan and PEIR.

Letter ORG 13: Southern California Leadership Council Et., al

Southern California Leadership Council
Building Industry Association of Southern California
Engineering Contractors' Association
California Building Industry
Construction Industry Air Quality Coalition
Inland Empire Economic Partnership
Southern California Partnership for Jobs
NAIOP SoCal
Southern California Contractors Association

January 24, 2020

Response ORG 13-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-2

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-3

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-4

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-5

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-6

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-7

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-8

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-9

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-10

For additional information regarding housing affordability, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan. Also, for responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001455 and 0001463* of the Final Connect SoCal Plan.

Response ORG 13-11

The comment provides a set of general remarks regarding Connect SoCal and SB 375 targets. See **Master Response No. 1: General Comments and Non-CEQA Issues.**

Response ORG 13-12, 13-13, and 13-14

The comment asserts that the PEIR fails to identify feasible mitigation measures for the reasonably foreseeable consequence of the implementation of the Plan and fails to disclose the scale and significance of unavoidable adverse impacts. See **Master Response No. 2: Program EIR vs. Project EIR**; the PEIR appropriately evaluates the Connect SoCal Plan at the regional scale, identifies significant impacts and appropriately identifies feasible mitigation measures. See **Master Response No. 5: Approach to Mitigation Measures.**

Section 3.15, Public Services, and Section 3.19, Utilities and Service Systems, both evaluate the potential impact the Plan could have on infrastructure and associated service systems. Such impacts include inadequate wastewater treatment capacity, water supply, impacts from construction of new facilities and so on. The PEIR generally recognizes that more growth and development in urban areas would affect existing infrastructure (the aging of which is a pre-existing issue).

The PEIR states the following in Chapter 4.0, Alternatives (p 4.0-48), “[f]or purposes of this PEIR, the impacts associated with reducing global GHG emissions and regional air pollutants must be examined alongside the other adverse impacts that are caused by increasing the density and intensity of the region’s development patterns and, for example, bringing people closer to sources of air pollutants such as transit corridors and freeways (even though these sources would have fewer emissions in the future, despite increasing traffic, due to emission controls). The tension between CEQA’s mandate to reduce all types of impacts to the maximum extent feasible, and the statutory mandates of reducing GHG emissions under AB 32, SB 32 and SB 375, is a well-recognized CEQA compliance challenge.⁴⁴ CEQA does not provide any legal mechanism for “weighting” environmental impacts, and scoring some categories of impacts as “more important” and others as “less important.” Instead, CEQA is structured to require the disclosure of all impacts for each alternative and the Plan, to foster informed decision making and to disclose the inherent trade-offs between different types and magnitudes of impacts associated with different alternatives.

Please refer to Section 3.13, Noise, for discussion of potential noise impacts associated with the Plan as well as Section 3.3, Air Quality, for a discussion of potential air quality impacts associated with the Plan. Although the land use pattern is generally known, site specific impacts cannot be reliably identified, nor is it appropriate for a program level document to do so. The PEIR generally identifies the types of impacts that could occur over the lifetime of the Plan and conservatively identifies such impacts as being significant and unavoidable.

First of all, the reasonably foreseeable demolition and displacement of existing uses in or near transit stations and corridors were examined at the regional level for the SCAG region as a whole (see, for example, qualitative discussion of construction air quality impacts, Section 3.3, Air Quality [page 3.3-54]).

Second, with respect to the purported increase in “supercommuters,” this assertion is speculative. See **Response ORG 4-7**.

Third, with respect to the assertion that there will remain no practical, fixed route public transit options to serve the distantly-residing construction workers and other middle-class households, this again is speculative. Connect SoCal includes \$66.8 billion dollars in transit, and \$136 billion is dedicated to system maintenance. In addition to funding specifically for transit, Connect SoCal includes a comprehensive set of policies, strategies, and multi-modal services and infrastructure investments to

⁴⁴ Adams, Tom (California League of Conservation Voters), and Amanda Eaken and Anne Nothoff (Natural Resources Defense Council). 2010. Tackling California’s Global Warming Challenge: A Guide to SB 375, by Tom Adams (California League of Conservation Voters), p. 24. Available at: <https://www.nrdc.org/sites/default/files/sb375.pdf>

support all modes of travel and promote a reduction in single-occupancy vehicle (SOV) travel to help the region meet its mobility and sustainability goals. Connect SoCal prioritizes growth near high quality transit, to maximize the effectiveness of the region’s existing and planned transit system. The commenter also cites a report from UCLA.⁴⁵ The report in fact states that density makes transit service *more* effective by putting large numbers of trip origins and destinations close to transit. Additionally, UCLA states that the evidence regarding neighborhood change and transit use is “far from conclusive” and “warrants substantial further research.” SCAG is currently working with UCLA to further study the effects of neighborhood change on transit use.

Finally, commenter asserts that the PEIR fails to analyze impacts related to out-migration caused by the draft Connect SoCal’s foreseeable worsening of the housing supply and affordability crises. SCAG disagrees with the commenters premise that the construction of infill housing would necessarily result in higher housing prices overall. While many factors contribute to the high cost of housing in California, housing prices can reasonably be anticipated to be reduced overall through the consistent addition of housing stock and increases in supply, consistent with standard economic theories. As such, these assertions are speculative. For additional information regarding affordable housing, please refer to the Sustainable Communities Strategy Technical Report of the Final Connect SoCal Plan.

In sum, it would be speculative for the PEIR to identify the potential localized impacts referenced by Commenter that could occur as a result of the Plan as there are countless factors that would affect such impacts. For example, factors such as speed of housing development, timing for transportation projects, changes in technology (i.e., micro transit, etc.) as well as external factors such as market conditions and even legislation being considered at the state level are uncertain. As such, the specific potential impacts raised by commenter are not “reasonably foreseeable.” It is not the role of the PEIR to speculate as to which of these factors might interact with any other of these factors, but rather to evaluate the broad programmatic impacts that are reasonably foreseeable. See **Master Response No. 2: Program EIR vs. Project EIR**.

Response ORG 13-15

The comment relates to mitigation measures. The PEIR includes mitigation measures for SCAG and for project sponsors. Refer to **Master Response No. 5: Approach to Mitigation Measures** and the Executive Summary which lists all proposed mitigation measures. The commenter suggests measures such as reducing housing costs through accelerated and by-right approvals. While SCAG does not have land use authority to create by-right approvals, SCAG does offer CEQA streamlining opportunities through this

⁴⁵ UCLA, “Falling Transit Ridership: California and Southern California,” available at: <https://www.its.ucla.edu/2018/01/31/new-report-its-scholars-on-the-cause-of-californias-fallingtransit-ridership/>

PEIR (see Chapter 1.0 Introduction) which can create accelerated approvals. Further, Section 3.14 includes a number of measures (SMM POP-1 through SMM POP-4) aimed at reducing the cost of housing through technical assistance.

Response ORG 13-16

The comment asserts that the PEIR does not analyze the foreseeable failure of VMT reduction policies and suggests SCAG should look at other methods of GHG reduction beyond VMT. The commenter provides no substantial evidence to support the claim that VMT strategies (identified and supported by the State of California and numerous other organizations as an appropriate GHG reduction strategy) will fail. The PEIR focuses on GHG reductions from the transportation network because SCAG is a Metropolitan Planning Organization (MPO) responsible for regional transportation planning. SCAG does not have purview over land use, ships, trains or stationary sources, as such contemplating VMT reduction measures for areas other than transportation would be far outside SCAG's mandate. Further, CARB has set GHG reduction targets for SCAG (and other MPOs) to reduce transportation related GHG emissions. VMT is the primary tool SCAG uses to reduce GHG emissions as VMT and GHGs are closely tied and VMT is related to transportation.

Response ORG 13-17

The comment relates to the Regional Housing Needs Assessment. Refer to **Master Response 7: Regional Housing Needs Assessment**. SCAG disagrees that the existing need is in fact cumulative to the Plan.

Response ORG 13-18

The comment suggests that the draft PEIR should be revised to include an alternative consistent with the issues raised in the letter.

Chapter 4.0 Alternatives includes the rationale for the selection of alternatives (page 4.0-1 and 4.0-2). As discussed, the range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the proposed project. An EIR does not need to consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. SCAG selected a total of three alternatives to the project that would be feasible and would obtain the project objectives. These alternatives consisted of a number of variables related to land use and transportation including compact or infill development, amount of development in HQTAs, location and intensity of transit service, and level of investment in TDM. Generally, the alternatives represent a progression of land use and transportation investments, such that the Existing-Plans Alternative includes the most dispersed land use and fewest transportation investments and Intensified Land Use Alternative represents the most compact land use pattern but maintains the same transportation investments as the Plan. Consideration of alternatives requires careful

examination of the multiple facets of each alternative. For example, while urban development may preserve farmland or other natural resources, it could place a burden on urban parks, schools, police and fire services, and aging infrastructure. There is no evidence presented by the commenter that suggests the impacts of the suggested “ameliorative” housing alternative would be any different than those presented in Chapter 4.0. Therefore, there is no need to evaluate such an alternative.

Response ORG 13-19

The comment is a summary of issues raised in the letter. Please refer to **Responses ORG 13-13 through 18** above. SCAG disagrees that the PEIR is deficient and requires recirculation.

Response ORG 13-20 and 13-21

The comment presents opinions and summary comments. Please refer to **Responses ORG 13-13 through 18** above.

Response ORG 13-22 and 13-23

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001463* of the Final Connect SoCal Plan.

Letter ORG 14: SEIU Southern California

David Huerta, President
SEIU United Service Workers West

January 24, 2020

Response ORG 14-1

The comment presents a set of general objections to the Plan's air quality analysis and growth forecasts. The comments are responded to individually below. For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001481* of the Final Connect SoCal Plan.

Response ORG 14-2

The comment requests clarification on the use of EMFAC2014 for the Plan's transportation conformity determination. See **Master Response 4: Technical Process/Modeling**. Regarding the Plan's growth forecast, commenter is referred to **Master Response No. 7: Regional Housing Needs Assessment**.

Response ORG 14-3

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001481* of the Final Connect SoCal Plan.

Response ORG 14-4

The comment requests additional information regarding EMFAC modeling. See **Master Response 4: Technical Process/Modeling**.

Response ORG 14-5

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001481* of the Final Connect SoCal Plan.

Response ORG 14-6

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001481* of the Final Connect SoCal Plan.

Response ORG 14-7

As requested, the commenter has been added to the PEIR mailing list.

Letter ORG-15: Bolsa Chica Land Trust

Kim Kolpin, Executive Director
Bolsa Chia Land Trust
5200 Warner Avenue, Suite 108
Huntington Beach, CA 92649

January 22, 2020

Response ORG 15-1

The comment relates to wildlife corridors. The PEIR found that the Plan would interfere substantially with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites and would result in a significant and unavoidable impact (Impact BIO-4). Numerous project level mitigation measures were identified for migratory species. These measures included consulting with “wildlife corridor authorities”; counties, cities, and other local organizations; USFS, CDFW, and USFWS and other agencies for projects that could impact wildlife corridors or migration for project planning. The Plan included project specific mitigation measures to: design proposed projects to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors; conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site; analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor; require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation; pursue mitigation banking to preserve habitat linkages and corridors; design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches; evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat; to provide wildlife crossings in accordance with proven standards; and, where avoidance is not feasible, to design sufficient conservation measures through coordination with local agencies and the regulatory agencies (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. Please refer to **Response ORG 8-6**.

Letter ORG-16: Friends of Harbors, Beaches, and Parks

Michael Wellborn, President
Friends of Harbors, Beaches, and Parks
P.O. Box 9256
Newport Beach, CA 92658

January 22, 2020

Response ORG 16-1

The comment relates to wildlife corridors and mountain lions. Refer to **Response ORG 8-6**.

Letter ORG-17: Sierra Club Save Hobo Aliso Task Force

Penny Elia
Task Force Chair
Save Hobo Aliso Task Force
Sierra Club

January 20, 2020

Response ORG 17-1

The comment relates to wildlife corridors and mountain lions. Refer to **Response ORG 8-6**.

Letter ORG-18: California Cultural Resource Preservation Alliance

Patricia Martz, Ph.D.
President, California Cultural Preservation Alliance, Inc.
P.O. Box 54132
Irvine, CA 92619

No Date

Response ORG 18-1

The comment generally relates to conservation of open space and parkland and protection of cultural resources. SCAG recognizes the value of open space and has incorporated mitigation measures into the PEIR that address open space through farmland protection. For further clarification, see Section 3.2, Agricultural and Forestry Resources.

Letter IND-1: Marven Norman

January 24, 2020

Response IND 1-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001522 and 0001523* of the Final Connect SoCal Plan.

Letter IND-2: Albert Perdon

Albert Perdon
39958 End of the Trail
De Luz, CA 92028

January 24, 2020

Response IND 2-1

The comment relates to environmental review of high-speed train. See **Master Response No. 1: General Comments and Non-CEQA Issues** and **Master Response No 2: Program EIR vs. Project EIR**.

Letter IND 3: Henry Fung

Response IND 3-1

For responses related to the Connect SoCal Plan, please refer to *Submission IDs 0001325-0001330 and 0001404* of the Final Connect SoCal Plan.

Response IND 3-2

The comment requests information on anticipated amendments to the PEIR in response to the final RHNA and Housing Element updates. See **Master Response No. 7: Regional Housing Needs Assessment**.

Letter IND 4: Jordan Sisson

Response IND 4-1

The comment relates to the public comment period for the PEIR. The PEIR was available beginning December 9, 2019, through January 24, 2020, for a total of 46 days.

Letter IND 5: Stephanie Johnson and Ghassan Roumani

Stephanie Johnson
Ghassan Roumani
January 24, 2020

Response IND 5-1

The comment restates the Plan goals but indicates that possible quality of life impacts in San Marino due to increased traffic are not addressed. See **Master Response No. 1: General Comments and Non-CEQA Issues** and **Master Response No. 2: Program vs. Project EIR**.

Response IND 5-2

The comment accurately restates the thresholds of significance in Section 3.17, Transportation, of the PEIR. No specific response is required.

Response IND 5-3

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001361* of the Final Connect SoCal Plan.

Response IND 5-4

For responses related to the Connect SoCal Plan, please refer to *Submission ID 0001361* of the Final Connect SoCal Plan.

Response IND 5-5

With respect to the transportation projects in the Plan, these projects are to be implemented by Caltrans, county transportation commissions, local transit agencies, and local governments (i.e., cities and counties), and *not* implemented by SCAG. Additionally, because the focus of the environmental analysis in the PEIR is on a regional scale, site-specific analysis of the projects contained in the Connect SoCal Project List are not individually analyzed (see **Master Response No. 2: Program EIR vs Project EIR**). Congestion is considered in Section 3.17, Transportation, and noise is considered in Section 3.12, Noise.



Santa Ynez Band of Chumash Indians
Tribal Elders' Council

P.O. Box 517 ♦ Santa Ynez ♦ CA ♦ 93460

Phone: (805)688-7997 ♦ Fax: (805)688-9578 ♦ Email: elders@santaynezchumash.org

December 27, 2019

Southern California Association of Governments
900 Wilshire Boulevard, Ste. 1700
Los Angeles, CA 90017

Att.: Ping Chang, Manager

Re: Connect SoCal NOA of DEIR

Dear Mr.Chang:

Thank you for contacting the Tribal Elders' Council for the Santa Ynez Band of Chumash Indians in regards to the above mentioned project.

At this time, the Elders Council requests no further consultation on this project; however, if supplementary literature reveals additional information, or if the scope of the work changes, we kindly ask to be notified.

Thank you for remembering that at one time our ancestors walked this sacred land.

Sincerely Yours,

The Tribal Elders' Council Governing Board

From: Jessica Mauck
To: ["chang@scag.ca.gov"](mailto:chang@scag.ca.gov)
Subject: 2020 draft Connect SoCal PEIR
Date: Monday, January 6, 2020 9:34:00 AM

Hi Ping,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced project. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on 13 December 2019. SMBMI has no concerns or comments for your agency in regard to this project, except to note that the San Manuel Reservation is actually 1123.68 acres (as written in a letter supplied to the Tribe by the BIA in 2019). The 673 acres noted within the PEIR is a very old number – unfortunately, the BIA has not been able to retain regularly updated lists of reservation land for public use. While this is not necessarily a massive alteration for your document, I wanted to point out the correct number, just in case you felt it needed to be updated for the purpose of your study.

Thank you,



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

FED-1

January 23, 2020

Southern California Association of Governments
Attn: Roland Ok, Senior Regional Planner
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: EPA Comments on the Connect SoCal 2020-2045 Regional Transportation
Plan/Sustainable Communities Strategy and Programmatic Environmental Impact Report

Dear Mr. Ok:

The U.S. Environmental Protection Agency has reviewed the Southern California Association of Governments Connect SoCal 2020-2045 Draft Regional Transportation Plan/Sustainable Communities Strategy and Draft Programmatic Environmental Impact Report. The EPA supports SCAG's goals of incorporating environmental and community considerations in the regional transportation planning process. Early integration of comments from regulatory and resource agencies can result in greater opportunities to reduce environmental and public health impacts associated with future transportation projects. The EPA provides the below feedback following our limited review of plan elements related to goods movement, environmental justice, and air quality.

1

Comments on the RTP/SCS

Goods Movement

Consistent with previous SCAG RTPs, Connect SoCal emphasizes the need to deploy zero and near-zero emission technologies, with the ultimate goal of transitioning to ZE technologies, in order to reduce air quality impacts from the region's freight system. It also highlights the importance of providing necessary supportive infrastructure and considering lifecycle impacts associated with these technologies. Pages 60-67 of the Goods Movement Technical Report describe numerous local, state, and federal initiatives to advance clean freight technologies, such as the California Sustainable Freight Action Plan, the South Coast Air Quality Management District's proposed Facility-Based Mobile Source Measures, and the San Pedro Bay Ports' 2017 Clean Air Action Plan Update. Specific roles identified for SCAG and partner entities, described on pages 68-69, include convening stakeholders to discuss battery manufacturing and disposal, coordinating with partners to include charging and fueling infrastructure in regional projects, and securing funding for technology evaluation and demonstration. The EPA strongly supports the efforts to transition to a ZE/NZE goods movement network described in the RTP. Such efforts will be critical to reducing public health impacts associated with ambient air pollution and assisting the South Coast Air Basin in attaining National Ambient Air Quality Standards.

2

Recommendation: Consider incorporating robust ZE/NZE deployment strategies in any planned freight-related capacity-enhancing projects, particularly those that would be located near

sensitive receptors and/or in heavily burdened communities.

2

Environmental Justice

EJ Toolbox

The Environmental Justice Technical Report examines 18 performance indicators within four geographic scopes to thoroughly evaluate the RTP's impact on EJ populations. The performance indicators are conveyed through four broader groups: impacts to quality of life, health and safety, commute, and transportation costs. Geographic scopes include the SCAG region, EJ Areas, Senate Bill 535 Disadvantaged Communities, and Communities of Concern. The report utilizes an array of data visualization methods, including maps that identify areas that have undergone significant changes over the years in relation to EJ communities and tables that convey how wildfire and flood risk vary by race and economic status. The findings of the report indicate that, for many performance indicators, the RTP would improve conditions for low-income and/or minority populations; however, it would also result in some disproportionate impacts to EJ communities, such as increases in emissions, noise, and rail impacts in certain areas. The EJ Toolbox included on pages 167-177 offers potential measures to address impacts to low-income and/or minority communities for various impact areas, including air quality, climate vulnerability, and noise.

3

Recommendation: Consider including the SCAG EJ Toolbox as a suggested resource in relevant project-level mitigation measures in the Final PEIR.

Congestion Pricing

The RTP incorporates three congestion pricing strategies, including the development and expansion of express lane networks, a proposal to establish a mileage-based user fee, and the use of Cordon/Area Pricing. As explained in the Environmental Justice Technical Report, the introduction of a mileage-based user fee could alleviate some disproportionate burden on low-income drivers because "it allows lower income households to pay the same price per mile as other groups, whereas the gasoline tax does not"; however, the report also acknowledges that a user-based fee would nonetheless be regressive in nature, as such fees would comprise a larger percentage of lower-income drivers' incomes than for drivers of higher income groups (p. 165).

Recommendations:

- Consider including a discussion of potential methods to address any disproportionate impacts to low income drivers that could result from the proposed congestion pricing programs (e.g., subsidizing the purchase of required transponders, waiving monthly maintenance fees, allowing the use of cash to open and replenish toll accounts, etc).
- Include a detailed description of any equity assessments that have been completed for existing congestion pricing programs in the region. Describe the key findings of each study and any approaches taken to reduce disproportionate impacts to low-income motorists.
- Encourage partner agencies to conduct equity assessments for planned congestion pricing programs.

4

Comments on the PEIR

Air Quality Mitigation Measures

The mitigation measures included in the Connect SoCal PEIR are classified into two types: those that SCAG would commit to implement, and those that would be considered by implementing agencies during project-level planning. The EPA supports SCAG Mitigation Measures Air Quality-2 and AQ-3, which confirm SCAG's continued commitment to evaluate public health outcomes through the transportation planning process, specifically through the Public Health Working Group, and to analyze air quality impacts, particularly in vulnerable communities, such as near-roadway communities. The EPA also supports SCAG's interest in improving active transportation in disadvantaged communities as indicated in SMM-AQ-1. We suggest elaborating on this program in the Final PEIR.

Recommendation: Provide additional details about the proposed Southern California Disadvantaged Communities Planning Initiative described in SMM AQ-1, including the entities that would participate in the initiative, potential eligibility criteria for applicants, and the community engagement strategy that would be employed.

Project MM-AQ-1 describes an array of emissions controls that lead agencies would consider in order to reduce construction-related emissions, including fugitive dust controls, idling restrictions, and the use of Tier 4 equipment in projects within 500 feet of certain sensitive land uses.

Recommendations:

- Consider incorporating a goal to minimize community impacts in PMM-AQ-1(o).
- Consider encouraging the use of ZE/NZE technologies, where feasible and appropriate, in PMM-AQ-1(q).

Greenhouse Gas Mitigation Measures

We support the robust set of mitigation measures to address greenhouse gas emissions listed on pages 3.8-68 - 3.8-72, many of which would yield the co-benefit of reducing criteria pollutant emissions. Project-level measures for consideration include the incorporation of green building features (e.g., energy-efficient construction materials, installation of energy-efficient lighting systems, use of highly-reflectivity building materials), the use of Best Available Control Technologies during construction (e.g., lighter-colored pavement, planting of shade trees, deployment of ZE/NZE technologies), and measures to encourage bicycle and public transit use.

Recommendation: Encourage the consideration of measures included in PMM-GHG-1 in environmental justice communities.

The EPA appreciates the opportunity to provide feedback for consideration during the regional transportation planning process. We hope this feedback will lead to improved environmental and public

5

6

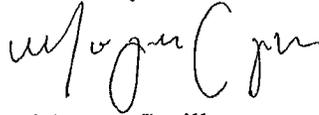
7

FED-1

health outcomes. Please send a copy of the Final RTP/SCS and PEIR when they become available to this office at the address above (mail code TIP-2). If you have any questions, please contact me at 415-972-3504 or capilla.morgan@epa.gov.

7

Sincerely,



Morgan Capilla
Environmental Review Branch

Electronic copy: Brenda Powell-Jones, Caltrans
Jason Roach, Caltrans District 7
Aaron Burton, Caltrans District 8
Smita Deshpande, Caltrans District 12
Lijin Sun, South Coast Air Quality Management District

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STA-1

*Making Conservation
a California Way of Life.*

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California Department of Transportation (Caltrans) wishes to thank the Southern California Association of Governments (SCAG) for the opportunity to review and comment on the Draft Connect SoCal, 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Draft Program Environmental Impact Report (PEIR).

1

Caltrans applauds SCAG's use of innovative techniques and methodologies in engaging constituents within its six-county jurisdiction through its "Bottom-Up Local Input and Envisioning Process". Building upon the previous 2016 RTP/SCS, the Draft Connect SoCal plan boldly implements sustainable planning strategies aimed to increase active transportation plans and products, increase ridership and use of various forms of transit, improve the infrastructure of goods movement, reduce congestion and Vehicle Miles Traveled (VMT), and create more diverse and affordable housing; while reducing greenhouse gases and advancing healthy communities amongst other transformative efforts.

The Draft Connect SoCal plan was distributed to Caltrans' Headquarters and Districts 7 (Los Angeles and Ventura Counties), 8 (San Bernardino and Riverside Counties), 11 (Imperial County), and 12 (Orange County). The offices within each District and Division were given the opportunity to review and comment on the Draft RTP/SCS and Draft PEIR documents according to the California Regional Transportation Plan Guidelines.

2

Connect SoCal's core vision coupled with its goals and guiding principles helps to further an interconnect region. Moreover, SCAG's commitment to strengthen previous investments in our multi-modal transportation system and with focused direction for future plan investments results in increasing the region's overall resiliency, prosperity and competitiveness.

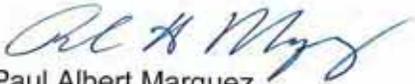
Specific comments on the Draft RTP/SCS chapters and appendices are included in Attachment A and specific comments on the PEIR are included in Attachment B.

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If you should have any questions in regard to the comments, please do not hesitate to contact Mine Struhl of my staff at (213) 897-0409.

2

Sincerely,



Paul Albert Marquez
Deputy District Director for Planning

cc: John Bulinski, D7
Ray Desselle, D8
Ann Fox, D11
Lan Zhou, D12
Marlon Flournoy, DOTP
Jacqueline Kars, ORP
Caleb Brock, ORP

Attachments

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Attachment A

Caltrans Headquarters – Office of State Planning

- The introduction is clear and informative on the regulations that guide the RTP development process however, RTP's are also influenced by the policies leveraged by the State. Suggest including additional language on SB 391 (2009) which also requires the California Department of Transportation to prepare the California Transportation Plan (CTP), California's long-range transportation plan. Reference to the CTP would illustrate the interrelationship between regional and statewide transportation objectives – highlighting how major metropolitan areas, rural areas, and state agencies can coordinate planning efforts to achieve critical statewide goals. Consider the following:

“To better coordinate with the State, Connect SoCal was developed to align with The California Transportation Plan (CTP). The CTP is a long-range statewide level transportation plan that combines regional transportation and land-use plans to produce a unified multimodal strategy to achieve our collective vision of a lasting and well-integrated transportation system that benefits both people and goods over the next 25 years.”

- While the plan is visually appealing and easy to read, consider including discussion on other Caltrans modal plans where necessary. With regards to the transportation complexities that exist throughout the State, differentiating the statewide goals from local/regional needs helps emphasize the challenges associated with transportation targets set forth by the State. Doing so also highlights the strategies proposed within the Connect SoCal to address transportation shortfalls within the SCAG region.

3

Caltrans Headquarters – Aviation & Aeronautics

- Land use and zoning around airports is an important element to consider and guidance can be found in the California Airport Land Use Planning Handbook (Handbook). Land use compatibility with an adopted general plan is the responsibility of each Airport Land Use Commission (ALUC). Airport Land Use Compatibility Plans should be regularly updated and reference current general plans to prevent incompatible land uses that encroach upon or threaten airport operations. Airports enable the movement of people and goods. They allow a community access to the nation's air transportation system. Airports are a valuable community resource enabling public services, such as medical transport and law enforcement. Future uses may include freight and package delivery as the use of Unmanned Aerial Systems (UAS) develops.
- Traffic congestion is one of the leading issues in transportation planning. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Airport Shuttle and Air Taxi markets are viable markets. We are aware of Uber announcing Los

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Angeles as one of the first cities to offer Uber Air flights, with the goal of beginning demonstrator flights in 2020 and commercial operations in 2023. The City of Los Angeles is creating an aerial mobility network integrated with its other transportation systems and investments.

- UAM largely is dependent on vertical takeoff and landing (VTOL) operations in urban areas. UAM application is to build well-distributed infrastructures to support VTOL aircraft operations. Those infrastructures are heliports and vertiports (or sky ports), where VTOL aircrafts take off and land, onboard or disembark passengers, and get charged. The Federal Aviation Administration has Advisory Circular 150/5390-2C to provide guidance on permitting and siting heliports.
- Significant legal/regulatory, certification, permitting/licensing, infrastructure, and weather constraints exist for currently operating aircraft. Vertiport or heliport locations should be carefully reviewed with consideration of its impact on potential UAM demand, safety, environmental impacts, land uses, energy distribution and demand, and transportation system performance.
- Can SCAG's RTP/SCS draw from Air Cargo projections and congestion/demand management strategies to formulate planning for logistics impacts from the growing consumer demand for home deliveries?

Please note below the following Codes for implementation in the Aviation input into the SCAG Draft RTP and its Aviation Technical Appendix:

- PUBLIC UTILITIES CODE – PUC- - -
- DIVISION 9. AVIATION [21001 - 24451]
- (Division 9 added by Stats. 1953, Ch. 151)
- ARTICLE 3.5. Airport Land Use Commission [21670 - 21679.5]
- (Article 3.5 added by Stats. 1967, Ch. 852)
- SCAG also note: 21670.2.
- Sections 21670 and 21670.1 *[These are the sections that require ALUCs in any county with public-use airports—DOC]* do not apply to the County of Los Angeles. In that county, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal. <http://planning.lacounty.gov/aluc>
- And, to clarify, our Cal. Aviation System Plan (CASP) update is not for the 2016 Policy Element directly. We're following a required 5-year update cycle, but the Plan will embark on a new course without "elements;" instead aligning with CTP 2050 to assist inter-modal goals.

3

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Caltrans Headquarters – Office of Regional Planning

The Office of Regional Planning (ORP) would like to commend SCAG for their vivid and creative approach to demonstrating SCAG's 20-year vision for the future.

Overall, the page references on the RTP Checklist included whole chapters and entire technical reports. We recommend that SCAG reference specific page numbers for each question on the RTP Checklist with their Final RTP submission.

Below are the following comments in reference to the RTP Checklist Contents:

General

- #2. The document identifies several strategies but does not delineate whether they are short-range and long-range strategies/actions (23 CFR 450.324(b)).
- #3. There is mention of the elements required throughout the report, but as a public document this checklist should reference more specific pages instead of whole chapters and technical reports. Also, the report doesn't have specific sections dedicated to each element i.e. policy, action, and financial (California Government Code Section 65080). These elements should be clearly defined and easily accessible by specific page numbers.
- #4(a). The referenced pages are missing the general location of uses and building intensities. (HQ referring to the page numbers that SCAG identified on the RTP Checklist. SCAG should ensure 4(a) of the RTP Checklist is fully addressed, specifically, the general location of uses and building intensities within the region).
- #4(b). There is a lot of information to decipher and it is not clear that SCAG identified areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth.
- #4(h). SCAG identified one map on page 23 of their SCS Technical Report (HQ is referring only to the SCS. It seems that SCAG labeled all of their appendices with "Technical Report," but the specific requirement in RTP Checklist 4(h) refers to the SCS requirement). This does not set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB.
- #7. The outdated RTP Checklist that SCAG provided did not include question 7. Please provide the appropriate page references with an updated checklist.

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Consultation/Cooperation

- #3. It is difficult to clearly determine that SCAG consulted with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP (23 CFR 450.316(b)). Please identify the specific pages for reference.
- #4. Please ensure that the final plan includes reference that federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP (23 CFR 450.316(d)).
- #5. It is difficult to determine where the RTP specifies that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation were consulted (23 CFR 450.324(g)).
- #6. Please include specific page reference that the RTP includes a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources (23 CFR 450.324(g)(1&2)).
- #15. It is not clear that the RTP will be adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date (Government Code 65588(e)(5)).

Programming/Operations

- The outdated RTP Checklist that SCAG provided did not include a *Programming/Operations Section*. Please provide the appropriate page references for each question on the updated checklist.

Financial

- #4. It is difficult to determine which projects are regionally significant. Please ensure that all regionally significant projects are identified (Government Code 65080(4)(A)).
- #9. In the Transportation Finance Technical Report neither TCMs or SIP is mentioned. Please ensure that the final RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented (23 CFR part 450.324(f)(11)(vi)).

Caltrans Headquarters – Office of Freight Planning

Overall, much of the Plan, specifically the Goods Movement Technical Report, includes vague and broad statements that are either not supported directly by data, analysis, or supporting evidence, or are supported with indirect and loosely (at best) related data and analysis. When data is sourced, it is cited in a way that makes it impossible to fact-check it or replicate the analyses. The language is so broad and vague that the plan does not leave the reader with a

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clear understanding of how the system works. For example, each goods movement mode is independently discussed within its section, and the plan is missing a section (discussion) that ties together and analyzes all the freight modes for a true multimodal freight system. The Plan's structure, styles, multicolor headings are confusing to read and difficult to identify the section relationships (e.g., main and subsections). We have listed main comments below.

Draft Connect SoCal

- Broad and a Vague Content with Limited Supporting Data and Analysis
- Page 74 through 82, A significant portion of the main body includes broad and sweeping claims with limited, if any supporting data and analysis.
- Page 81, Table 3.3, SCAG Region Airport Passenger Forecast for 2020–2045 (no citation)
- Significant portions of supporting data are either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with multiple data sources, one cannot determine what source is attached to the data.
- Provide professional citations. For example, see page 78, Truck Bottleneck Relief Strategy and Industrial Warehouse & Distribution Centers
- Missing Significant Freight Information
- Chapter 4 is missing a discussion of National Highway Freight Program funding and the Trade Corridor Enhancement Program.

Goods Movement Technical Report (GDPR)

The Goods Movement Technical Report contained very little technical information. We expected to find supporting data, analysis, and methodologies for planning the regional freight system. Instead, the information was only slightly more detailed than what we found within the main document. In fact, the GMTR included very little supporting evidence, and sources are not cited in a way that allowed the reader to fact-check or replicate the analysis.

- A section for Pipelines, a key and critical freight mode recognized by the U.S. Department of Transportation as well as the California Department of Transportation, is not included within this report. Include a Pipeline section with the other freight modal sections (e.g., Rail, Seaports, Airports, Highways)
- Significant portions of the main body and the GMTR include broad and sweeping claims with limited, if any supporting data and analysis. For example, there is no direct supporting data and evidence included in the e-commerce section. We see broad statements such as e-commerce has greatly increased, and that e-commerce has negatively impacted

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neighborhoods. However, we did not see any direct supporting evidence. We expected to see the number of increased trips related to e-commerce, but instead, we saw an increase in the dollars spent. This data does not support that there are more trips, as customers may be buying more expensive items or more items that are delivered on the same trip. Also, all forms of e-commerce a lump together. For example, Amazon purchases that are ordered online and delivered directly to the customer are combined with purchases that are ordered online at places like Target, Walmart, and Best Buy, where the customer can choose to pick up their purchase at the store. The store pick-up purchases are similar to the Sears Catalog (started in 1893) when customers ordered out of a catalog via the mail and picked up their purchases at Sears. We recommend separating the different types of "e-commerce" and addressing them individually.

- Page 5, First Paragraph: Define goods movement dependent jobs and provide examples for the industries
- Page 5, First Paragraph, "Jobs in goods movement dependent industries are generally well-paying, with annual average compensation in the construction, manufacturing, and wholesale trade sectors outpacing the average annual compensation for all regional industry sectors.": Support with specific data (not just averages) so that we can see the range in pay to the job. Using averages can greatly skew the results (e.g., low wage jobs offset by CEO salaries). Also, support with more data, including data sources (including reports, data tables) so that the analysis can be replicated.
- Page 6, Maintaining the Long-term Economic Completeness of the Region: Either provide useful information, data, and analysis or delete this section.
- Page 6, Promoting Local and Regional Job Creation and Retention: Provide supporting evidence and data. Provide the specific number of jobs that are created by the ports as well as the number of regional jobs created by "international trade activities." Define International trade activities. Also, link the infrastructure to the economy.
- Page 17, Distribution Centers, Warehousing and Transloading Facilities: This section includes unsupported statements and claims. Include supporting evidence and data, and professionally source and cite the data.
- Page 17, Consumer Base, "This growth in residents and income is expected to drive consumer spending and demand for goods, increasing pressure on the regional transportation network.": Support with evidence and data, and professionally cite the data source(s).
- Page 26, Highlight Area, Trade in the SCAG Region, First Paragraph: Define "current Administration" by giving its name. Also, is it regional, state, or federal?
- Most of the supporting data is either not cited or not properly cited. As a result, this data cannot be checked for accuracy, and the analysis cannot be replicated. For charts with

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multiple data sources, there is no way to determine what source is attached to the data. Provide professional citations. For example, when using the US Census data, include the Program (American Factfinder), the table (e.g., DP05), and the date(s) or when using the US DOT data, include the Program (FHWA), the report, table, website, and the date(s). This is important so that a reader can fact-check the data and replicate the analysis. Without this critical information, the reader must question the validity of the data and analysis. Examples include but are not limited to:

- Page 4, Table 1
- Page 7, Improving the Safety of Goods Movement Activities and Highlight Area: regional Goods Movement Workforce Development
- Page 14 Exhibit 3
- Page 15, Table 2, footnote 6, 7, and 8
- Page 16, Figure 1, Airports, International Land Ports-of Entrée
- Page 17 Distribution Centers, Warehousing and Transloading Facilities, and footnotes 10 and 11
- Pages 18 and 19, Highlight Area, Seaports and Regional Trade Flows, Figure 2, and footnote 13
- Pages 20 to 34, Figure 3 to Figure 19, Footnotes 14, 17,18, 19, 20, 21, 22,23, 25,26, 30 (FAF Version?), 31,32,33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47,48

Miscellaneous Comments

- Page 3, What is Goods Movement? A pipeline, a key freight mode is missing from this section.
- Page 3, Broad Economic Benefits: As currently written, this section is not understandable. Consider rewriting this section to include a clear introduction, thesis statement, body paragraphs, a restatement of the thesis, and a conclusion.
- Page 3, Broad Economic Benefits - First Paragraph: Who uses "performance" as a proxy: Without a subject, the relevance of this statement is unclear. What is the difference between the performance of the logistics industry and the contributions of the five major industries? Why does SCAG consider contributions of the "five major industry sectors..." more closely associated? Why were the agriculture and service industries (e.g., repairpersons) not included?
- Page 3, Broad Economic Benefits, Second Paragraph: Clearly link this discussion within this paragraph to the introduction above. As it is currently written, it is unclear how the GRP/GDP are connected (or not) with the five major industrial sectors. Also, what is "this economic impact"? Define "this economic impact."
- Page 3, Broad Economic Benefits, Third Paragraph: Clearly link this discussion within this paragraph to the first, introduction paragraph. Are the "good movement dependent

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industries" the same as the "five major industry sectors"? If not, how are they different. What is the difference between a sector and an industry? A layperson and technical expert should be able to read this and understand. As this is currently written, neither can.

- Page 4, Table 1- Change in Average Annual Pay for Goods Movement Dependent Industries in the SCAG Region 2012-2016: The introduction sectors reference five sectors; this table includes seven sectors. Why?
- Page 5, First Paragraph: Define freight dependent jobs.
- Page 5, Regional Global Profile: Consider renaming this section the United States Global Profile as the narrative references the U.S. and not the SCAG region. Also, absent from this section is a discussion regarding the impacts of California's climate policies on So Ca Port's competitiveness with other U.S. and international ports.
- Page 5, Regional Global Profile - Second Paragraph: Consider rewriting this paragraph because it is confusing.
- Page 6, First Paragraph: Identify who expects them to grow and by how much? Support this statement with evidence.
- Page 6, Second Paragraph: Replace "recent" with a specific date and identify the specific shift(s) (e.g., percentages) and policies as well as the specific impacts of those shifts. It is not unusual for the federal reserve to adjust, so it is important that this statement is supported with evidence and a citation.
- Page 6, Goods Movement Vision: This vision is focused on freight movement; however, it should also focus on servicing the people (e.g., brings food and clothing to the people in the region). By focusing on throughput and other technical details, the basic needs that freight movement provides for are overlooked. It is helpful to plan for freight movement using a lens of what the region would look like without freight accessibility.
- Page 7, Increasing Freight and Passenger Mobility: Populate this section with useful information like specific strategies for improving goods movement and how the region is going to double rail volumes. Also, include the current freight performance by mode (or reference to a different section that contains that information) and what needs to be done to maintain that performance into the future.
- Page 7, Improving the Safety of Goods Movement Activities: Are there currently issues, if so, what are they?
- Page 7, Mitigating Environmental Impacts of Goods Movement Operations: Explain why and provide cited data, analysis, and evidence supporting this claim.

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- Page 7, Highlight Area: Regional Goods Movement Workforce Development, Second Paragraph, First Sentence: "Currently, the U.S. is nearing, or at, full employment": Provide properly cited data supporting this claim. Also, link this to the SCAG region.
- Page 9, First Paragraph: Define "dead-end-jobs."
- Page 9, Seaports First Paragraph: Footnote 2: The WSC is a group. Please include a specific source (interview, report) that is properly cited so that readers can find the documentation of this statement.
- Page 9, Seaports, "percent of all containers in the U.S. moving through the San Pedro Bay Ports.³ Despite some recent modest shifts in container volumes to other U.S., Canadian and Mexican ports, the total container volume for the San Pedro Bay Ports is still expected to grow to over 34 million by 2045, a 120 percent ...": How was this analysis performed. What is the data source (including citation)? Model type, name, version?
- Page 9, Seaports, "35 percent of the San Pedro Bay Ports' total import-related traffic. The other 65 percent is assumed...": Did this data also come from footnote 3? If not, source the data, and provide a professional citation.
- Page 9, Seaports, Third Paragraph – "deconsolidation of the contents": Define for laypersons.
- Page 9, Seaports, Third Paragraph – "Transloading allows for the movement of increased amounts of goods while...": This statement may or may not be correct. For example, it may be that the region has gotten to the point that the transportation system is so congested that there is no capacity to support any more trips (freight or other) regardless of container. So, provide data, analysis, and supporting evidence for this claim as it relates to the current and future SCAG freight system.
- Page 10, Railroads, First Paragraph, First Sentence, "Critical to the growth": Demonstrate how BNSF and UP are critical to SCAG's growth. For example, what functions do they play in SCAG's economy? Support with professionally cited data and evidence.
- Page 12, Second Paragraph: Who reduced the number of times freight itself (?) was handled, how was the freight handled, and what is the base year for the speed, efficiency, damage, and security. What year was the performance assessment developed that measured these items and identified that the efficiency and speed increased, the damage was reduced, and security became greater? Was the same base year and performance year used for all six intermodal terminals? Did all terminals follow the same methodology and use the same data? Support with professionally cited data and analysis.
- Page 12, "In addition to these intermodal terminals, there are railyards that serve carload traffic of various types. UP has a large carload freight classification yard at West Colton (at

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the east end.”: Does this section capture all the rail yards that serve carload traffic of various types?

- Page 15, Airports, First Paragraph: It appears that multiple data sources and perhaps years were used to produce the number included in this section. With this said, there is a real concern that the analysis is comparing "apples with oranges" or that selective data was used.
- Page 16, Figure 1 Air Cargo Tonnage through SCAG Regional Airports 2000- 2018: It appears that this table was constructed based on a mix of data and analysis that is not consistent. I suspect that this is a comparison of apples and oranges. See my comments regarding the data sources.
- Page 17, Supply Chains and the SCAG Region: Consider rewriting this section so that a layperson can understand. For example, what are product demand forecasting and production planning?

Caltrans District 7 – Freight Planning

Goods Movement Technical Report

- Last mile Delivery—page 2. METRO sponsored a conference in this regard, and it was also a focus in conjunction with INUF Conference in 2019. A more extensive discussion was expected. Additionally, no discussion provided on “First mile.”
- Page 16 of 32—Exhibit 3:
 - The “SR-206” shield should be Interstate 215. (same comment on exhibit 6 on page 52 of 132)
 - The “SR-30” shield should be SR-210.
 - The “I-210” shield that is shown to the right of the juncture of SR-57 and 210 should be SR-210 (Interstate 210 becomes SR-210 at the junction with SR-57.
 - Recommend the “county lines” are shown in different color as they are very similar to the highways not identified as part of the “Primary Highway Freight System.”
 - What year is the USDOT source?
 - NOTE: To the extent above information occurs in other exhibits, this should be considered a global comment.
- East-West Corridor—page 51. There is no “project scope” information, and no reference to any project(s) in the list of projects.

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- Appendix 1 of 1—page 123. Although multiple footnotes are from 2019, the discussion provided does not seem to include the most current information related to POLA (and possibly POLB) in this regard.

Caltrans District 7 – System Planning

- Page 34 - Exhibit 2.5 – There are lots of gradients in the LA/OC region; suggest doing a zoom box to show the land use breakdown in better detail.
- Page 40 - Figure 2.5/2.6 (and other graphs throughout) - Color choices for poor and good are very similar, which makes it hard to read tables quickly.
- Page 59: *Core Vision – Paragraph 1*: Fix-It First is commonly associated with the SHOPP program; suggest mentioning it here.
- *Planning for 2045* – typos in Line 1
- Page 69 - Active Transportation - “Walking and bicycling are accessible forms of transportation for people of all ages, abilities and socioeconomic backgrounds.” This is not technically for certain abilities. Line could be read as exclusionary.
- Page 77 – Express Lanes Table Line 3 - Los Angeles – I-405 – Add I-105 Express Lane (Should be add I-405 Express Lane?)
- Page 163 – Measure R – Measure R has no sunset as of Measure M’s approval.

3

Caltrans District 7 – Forecasting and Modeling

Draft Connect SoCal

- The goal of maintaining and rehabilitating the existing system is a laudable goal. The goal, according to SB-1, is to have 98% of the state highway system in each county operating at *Good* or *Better* condition by 2045. Table 1 on page 9 gives 47.9% of the statewide interstate highway system operating at *Good* in 2017. The only data in the report on pavement condition suggests a 3.4% drop over 2017-2022. How does the region intend to achieve the statewide level of performance when the current trend is downward?

Transit Technical Report

- Over the past 30 years, the SCAG region has made an unprecedented investment in transit infrastructure. Between 2007 and 2017, however, transit ridership has gone down by 19%. The projected goal of 1.6 billion transit trips in 2045, reflecting a 245% increase in transit ridership since 2015, seems rosy.

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- A common perception that transit is for the underclass seems to be an element here, but it isn't addressed.
- Calling for diligence against encroaching gentrification and good intentions regarding economic and environmental equity do not seem to have been enough so far to establish housing opportunities for all income levels. Relying upon the market forces that generated the current inequities to somehow solve them seems unrealistic. Markets prefer building housing for the higher income.
- There is a claim that you will get there from here, but the battle to provide affordable housing in Southern California is being lost, as witnessed by the tented encampments throughout the region, as well as the collapse every 20 years or so of the housing markets in the Antelope Valley, Inland Empire and the Victor Valley during recessions.
- The details on the 2020 RTP/SCS Travel demand modeling efforts in this report are scant. On page 2 of the Transportation Modeling conformity appendix, reference to the model as an Activity Based Model, and mentions that it has met federal requirements, and has been through a peer review process, but there aren't other details to assess the modeling efforts.
- Express Lanes are an important component of SCAG's planning for the highway system. The 2016 RTP assumes very high participation of 3+ Person Carpools on the Express Lane System. Those values are not realistic and give inaccurate estimates of future express lane person throughput, revenues generated and so forth. What are the values being generated in the SCAG 2020 RTP/SCS assignment model?
- The configuration of the No Build Highway Network mostly includes projects that I expected to see. The major changes seem to lay in the land use/transportation system interface which is the appropriate, but don't appear substantive enough to generate the massive behavioral changes envisioned.
- The report notes only one very general impediment to telecommuting. Specifically, it notes that some jobs are simply not amenable to telecommuting. That is true enough, but it reflects almost no examination of any specific impediments to telecommuting, nor how to overcome them. Questions of exercising oversight, handling liability issues are not addressed let alone resolved. No reference to specific financial, legal or social impediments to expanded telecommuting is mentioned. Yet, SCAG expects 9.5% of Home-Work trips to be eliminated through telecommuting.

3

Caltrans District 7 – LD-IGR/ Mass Transit

- Add an Executive Summary (that's a few pages longer than the summary on page 5)

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- In light of SB 743, it seems the following percentages should be reversed:
- - 22.8% Decrease in time spent in traffic delay per capita
 - 4.2% Decrease in daily miles driven per capita

Caltrans District 7 – Regional Planning

Draft Connect SoCal

- Page 2, under 'Our Plan'; in this section, commend SCAG for acknowledging the continuous partnership with the State (Department of Transportation) in advocating for implementation and funding for California's Active Transportation Program, resulting in the passage of Senate Bill 1.
- Page 2, SCAG identifies the region's multi-family shares declining from their peak in 2015. However, figure 2.4 illustrates 2017 as the peak year.
- Page 32, 'Present & Future Challenges', this section identifies Technical Reports for Connect SoCal. This section should include a weblink to the Technical Reports for reference purposes.
- Page 8, under 'What is Connect SoCal; in this section, the first paragraph discusses the Plan charting a path toward a more mobile sustainable and prosperous region. This section should include a visual graphic illustrating the connection between the key components.
- Page 20, SCAG identifies the two counties with the largest population growth (Riverside & Los Angeles), however this section should include the population growth throughout the SCAG region, including and identifying counties with disadvantage communities.
- Page 32, under 'Present and Future Challenges'; This section should include a weblink to the Technical Reports so interested parties can more easily see *how* the highlighted issues mentioned below are directly addressed by this plan.
- Page 32-33, under 'Affordable Housing'; This section brings up hurdles such as land use zoning that can make the development process expensive. Perhaps it would be beneficial to include some brief verbiage about how our region's zoning policies generally compare to other areas.
- Page 37, under 'Transportation Safety'; In the last sentence, it does not seem relevant or noteworthy to mention that lower speed crashes translate to a higher pedestrian survival rate. Instead, the plan should elaborate on how we can plan our transportation system in a way that encourages safe speeds since it has established that 30% of collisions result in unsafe speeds.

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- Page 38, this section identifies the historic catastrophic events data, however this section should include the effects of the catastrophic events as they corollate to transportation security.
- Page 41, the paragraph regarding funding transportation would have been enhanced by having a graphic showing the existing gap between cost of transportation and available dollars.
- Page 47, this section addresses trends and emerging challenges which must be done to reduce greenhouse gas and meet target goals. Commend SCAG for incorporating this segment as part of Connect SoCal to address additional alternative approaches to address regional challenges.
- Page 66, Table 3.1; Where can interested parties find more information on the listed Transit Capital Projects?
- Page 74, this section identifies the Project List Technical Report of financially constrained and unconstrained lists of projects. This section should include a weblink to the Project List Technical Reports for accessible reference purposes.
- Page 128, under 'VMT Per Capita'; Should verbiage be added to explain why the State is shifting towards VMT as opposed to Level of Service (LOS)? It could tie in with the promotion of in-fill development, multi-modal transportation options, etc.
- Page 150, Commend SCAG for identifying a framework to continue regional partnerships. Together the efforts will address regional challenges and an attempt to meet goals that deem unpredictable.
- SCAG is applauded for explaining Connect SOCAL concept and its connection to the RTP and its long-range goals. SCAG also noted that cities and counties adopting the spirit of the RTP into planning measures for their areas could help their eligibility for future funding grants.
- SCAG did a great job on discussion of the myriad of components that makeup an RTP.
- Suggest making the Environmental Justice/ Public Health Technical Report maps available as interactive maps for the public to view impacts in their communities as well as for comparative analysis.
- We applaud SCAG for considering the importance of an aging population (65+) in the Plan; 1 out of 5 residents in the SCAG region will make up this demographic (Page 17, Connect SoCal Draft). They are more susceptible to impacts in the focus areas listed in the Public Health Technical Report than is the general population.

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- Suggest more transparency, inclusion of sources, and studies concerning metrics such as those used to forecast “growth” regarding the job-housing balance (Page 45, EJ Technical Report) and “best practices” for time-based shopping and job accessibility (Page 58, EJ Technical Report).

Technical Reports (General)

- Passenger Rail: How does the Passenger Rail Report integrate CTP 2040 and the California State Rail Plan 2018 with regards to goals, policies and strategies?
- Transit: How does the Transit Technical Report integrate CTP 2040 and the Caltrans 2017 Statewide Transit Strategic Plan with regards to goals, policies, strategies and recommendations?
- Goods Movement: How does the Goods Movement Technical Report integrate CTP 2040 and the California Freight Mobility Plan with regards to goals, policies, strategies and recommendations?
- Aviation and Airport Ground Access: How does the Aviation and Airport Ground Access Technical Report integrate CTP 2040 and the California Aviation System Plan Policy Element 2016 with regards to goals, policies, strategies and recommendations?
- Active Transportation: Caltrans applauds SCAG on its robust and comprehensive commitment to Active Transportation. Caltrans praises SCAG for its many referencing of State of California and Caltrans documents relating to active transportation. Excellent sourcing and listing of CTP 2040, California Bicycle and Pedestrian Plan, various Caltrans District Level Active Transportation Plans, Caltrans State Highway Safety Plan, Caltrans Complete Streets Element Toolbox Guidebook, etc.
- Highways and Arterials: How does the Highways and Arterials Technical Report integrate CTP 2040 and the 2015 Interregional Transportation Strategic Plan and its programmed projects in the Interregional Transportation Improvement Program (ITIP) with regards to purpose, policies and considerations?

3

Performance Measures Technical Report

- Page 30, The report states that Environmental Quality is measured in terms of criteria air pollutant and GHG emissions. The EPA sets NAAQS for six common criteria pollutants, however only four (transportation related) pollutants are monitored in the SCAG region. What percentage of the overall criteria air pollutants do the other two pollutants contribute?
- In addition to criteria pollutants, the EPA identifies 9 priority air toxic compounds with mobile sources known as Mobile Source Air Toxins (MSAT). The nine priority compounds are: 1,3 – butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (POM) which have the potential

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for adverse health effects. The Performance Measures technical report has no mention of these mobile source air toxins. They should be monitored and strategies for reduction of MSAT be implemented.

- Non-SOV mode share is included in the Environmental Quality outcome category. Would be helpful to have figures that show percent of people who have switched to this method of transport and projections for future conversions to this method and its overall impact on emissions.
- Emissions are estimated using results of the SCAG RTDM which are then inputted to the California Air resources Board (ARB) Emission Factors (EMFAC) model. Information on the accuracy, precision, and uncertainty values of the model would be helpful.
- Page 31 Differentiate between tropospheric ozone (ground/surface-level) which can have adverse health impacts on the community versus stratospheric ozone.
- Clearly define “reactive organic gases (ROG)” and identify which ones are the largest contributors to the formation of surface ozone levels in the SCAG area. Which reactive organic gases are being monitored?
- Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. Tropospheric ozone formation is sunlight/temperature dependent. Report could use information on the effects that future climate change (possible increase in temperature) will have on tropospheric ozone production rates up to the year 2035. It is not clear if this change has been considered when running prediction models.
- Page 31 – Table 10, (SB 375) regional targets were updated by the Air Resources Board in 2018 to ensure consistency with the more stringent statewide reduction goals subsequently introduced by the California legislature and the Governor’s office.
- SB 375 Regional Plan Climate Targets through Sept. 20, 2018 for 2020 were -8%, that goal remained the same after the more stringent goals were introduced beginning Oct. 1, 2018. Was this goal met? If so, what strategies were successful in reaching this goal?
- However, for the 2035 goal, the goal before Oct. 1, 2018 was -13% and was changed to -19%. The newly adjusted goal has been made significantly higher. How has this affected planning to meet the 2035 goal now that it has been changed substantially? Is it feasible?
- Page 32, What criteria and associated weights are used in the SCAG Scenario Planning Model (SPM)?
- There is mention that for Connect SoCal. The scenario modeling capabilities have been enhanced. By what methods and criteria?

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Transportation Conformity Analysis Technical Report

- Page 3, State Implementation Plans (SIPs) - Connect SoCal must conform to the applicable SIPs [motor vehicle emissions budgets (for all criteria pollutant SIP's) and TCM's (for ozone and CO SIP's only)] in the SCAG region.
- Page 4, Federal Clean Air Act Designations in the SCAG Region - Differentiate between tropospheric and stratospheric ozone formation.
- Address the differences and severity between PM 10 and PM 2.5 health risks.
- It is crucial to provide information about the atmospheric lifetime of the criteria pollutants. Pollutants with long atmospheric lifetimes can survive in the environment for years which can greatly impact modeling efforts.
- Page 28 – end, Tables with ROG - Define Reactive Organic Gases/clarify if they are using the ARB definition along with its exemptions. (ROG usually means any compound of carbon) however the ARB has listed exemptions to ROG which would not be included in emission measurements. Alternatively, specify what compounds are being tested for/monitored and shown in the table under ROG.

Goods Movement Technical Report

- Currently, much of the SCAG region fails to meet federal ozone and fine particulate air quality standards as mandated by the federal Clean Air Act.
- Although zero-emissions vehicles seem to be the goal, the discussion on near-term improvements that can be implemented sooner and at a cheaper cost is appreciated. Zero-emission vehicles for goods movement are still at an early stage and require a lot of money for implementation including the planning and building of new infrastructure to support the energy needs of these technologies.
- It is important to explore other emission reduction strategies that can be implemented right away with relatively lower costs. (e.g. improvements to engine efficiency. Increase efficiency in internal combustion engines through engine technologies such as waste heat recovery which lowers fuel use).

Caltrans District 7 - Active Transportation

Draft Connect SoCal

- Page 54 - Livable Corridors Section:

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- This section focuses on BRT options to qualify an area as a “livable corridor”, but consideration should also be given to rail corridors as well.
 - There is no mention of landscaping, green scaping, shade trees or bioswales as a viable improvement for a livable corridor. These types of improvements can also help slow down traffic and improve the conditions for other street users.
- Page 69-70 - Active Transportation Section:
 - It would be helpful if the active transportation improvements section included more specific improvements (like the Transit Improvements section). Improvements to pedestrian facilities are important and should be noted.
 - There were many community concerns regarding the Venice Boulevard Great Streets project. We suggest using a much more successful example of a Great Street in this section.
 - More funding opportunities should be provided for community-based organizations to be “partners” or “co-leaders” with agencies to help ensure the community’s active transportation needs will be met.

Active Transportation Technical Report

- The terminology used in this technical report is not well explained or defined; please consider providing a Lexicon.
- We recommend providing more details on “green streets” and the value these offer towards a more sustainable future.
- Page 56 – Safety: The current safety goal (reduce traffic fatalities for all modes by three percent and serious injuries by 1.5 percent by 2050) is extremely conservative relative to the widespread adoption of “Vision Zero” at many federal, state and local agencies to reduce fatalities and serious injuries to zero.
- Page 59 - Pedestrian Infrastructure: Consider adding “reducing driveway conflicts” as part of Strategy 1 or 3 to reduce potential conflicts between pedestrians and drivers.
- Page 59 - Local Bikeway Infrastructure: Specify the types of “low-stress protected bikeway networks” facilities described in Strategy 1 that are preferred (e.g., Class I, II, III, or IV)
- Page 60 - First-Last Mile Infrastructure / SRTS Infrastructure: All policies should include an equity strategy to ensure future investments are going towards improving previously disinvested communities to increase safety for vulnerable road users.
- Page 64 - Safety Strategies: Consider historically disproportionate impact that increased enforcement/ policing has had on low-income communities of color in Safety Strategy 3 and

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Strategy 7. Enforcement should be tempered with appropriate, ongoing public engagement to avoid potential alienation and discrimination in these communities.

Caltrans District 7 – Division of Design

- The plan “sounds good” and at the same time very unrealistic.
- Assume reduction in car usages and VMTs, mainly thru “Transit Integration”. While in the past 10 to 12 years Transit Ridership has been decreasing in the region and nationwide.
- The use of this Plan/Strategy’s numbers will hide/lessen the impacts of Goods Movements mobility projects, Tolling Lanes with assumed future Demand, etc., and boasts the assumed benefits identified below (Region’s assumptions). See Regions unsupported/overestimated assumptions below (pushed as future “facts”).
 - SCAG’s region projected 19%, or 3.7 Million population increase in the Region over the next 25 years. This projection is likely to be low, if California’s economy maintains its strength.
 - According LA based Beacon Economics in the next 30 years, LA County would increase by 3.5 million and Riverside County will increase ~ 3.2 million.
 - <https://www.reuters.com/article/us-california-population/californias-population-to-hit-60-million-by-2050-idUSN0930091220070709>
- MODE SHIFT: The assumptions are based to a large degree upon the extent to which major mode shifts within the region can be accomplished. No reasonable and/or quantifiable data provided on that insures these shifts are highly probable to materialize, especially as transit ridership has been steadily declining in the past 12 years nationwide and throughout Southern California. With Technology leaps, driverless car sharing options are likely to lead to increases in vehicle miles traveled (VMT).
- The same with all past Plans, this Mobility Plan promises to “fix” the current challenges... With No Accountability, only to repeat in the next one while consuming Billions of tax dollars, which is very good for the economy.
- HIGH OCCUPANCY VEHICLE (HOV) AND TOLLING LANES: It is crucial to transparently address Inequity issues (Title VI, etc.), address the true Corridors’ mobilities prior to regional policies to increase the number of persons needed to ride for free in Tolling lanes. Need comprehensive and transparent impacts assessment on traffic congestion and on people impacted by these changes. Currently designed Tolling “Express” Lanes policy papers is skewed towards Tolling (“drives” the operational assessment). The operations should be based on, at a minimum, evaluating all freeway lanes together (included tolling). To be transparent, the operational analysis should address the Corridor (to include parallel arterials/local streets impacts).

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A recent example from Metro's I-105, EA 314500 PAED docs., Convert HOV lane and add a lane (for a 2-Tolling Lanes): The 2016 SCAG RTP/Sustainable Communities Strategy (scenarios include: Transit Integration, Livable Corridors, "Neighborhood Mobility Area" - walking/bicycling, Bike and car sharing, etc.). The Travel Demand Model year (2047) shows 17.2 % trip reduction (traffic #s lower than current counts). Metro/"PDT" said this was not a realistic forecast and implemented a strategy that translates into higher vehicle on the I-105 GP and Tolling lanes). Metro selected to use year (2027) TDM projections/congested #s, project opening year, and held these #s constant thru year (2047)! This Strategy justifies implementing the Tolling Project. At the same time to reduce the schedule and cost, it was argued that the Fwy Traffic Noise impacts would be much lower with reduced traffic demand, therefore no need to construct sound walls.

Caltrans District 8

Thank you for the opportunity to review Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. We found the overall document to be generally well written, visually interesting to read and provided the results and finding on an array of regional planning issues from a lot of work that clearly took years of sustained, focused, directed effort.

It is our understanding that the United States currently faces a housing shortage in excess of some 7 million dwelling units. Of that 7 million+ dwelling unit shortage some 3.5 million units of the shortfall exists here in California. Beyond homelessness and increased use of limited existing square footage in our existing housing supply, the unprecedented housing shortage has created a range of social equity issues (lack of personal financial independence, homeownership etc.).

Since some 73 percent of Californians live in Southern California, the housing shortage is an extremely important issue with a range of impacts on the transportation system. The 2012 RHNA indicate a need for 412,000 new housing units. The 2018 RHNA indicates a need for some 1,340,000 million new housing units in Southern California. The draft Connect SOCAL document doesn't seem to indicate what the extent of this worsening crisis is here in Southern California.

As noted in the summary of Connect SOCAL the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy, the current severe housing shortage creates jobs/housing balance issues and the need for longer commutes and increased congestion on the overall transportation system.

On Pages 48-56 under the heading Sustainable Communities Strategies and Housing Supportive Infrastructure Connect SOCAL discusses sustainable development practices such as Center Focused Placemaking, Priority Growth Areas, Job Centers Transit Priority Areas, High Quality Transit Areas and Neighborhood Mobility Areas and discusses the housing crisis

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but provides little indication that the types of desired development listed above is happening on a large scale in the region.

Page 49 included a short list of ways Diverse Housing Choices could be encouraged. We commented in bold below on these strategies and recommended additional strategies related to housing and transportation caused by longer commutes and increased congestion caused by new housing.

- 1) Preserve and rehabilitate housing and prevent displacement. **Wouldn't preservation/rehabilitation occur due to supply and demand? Is displacement good if higher density is proposed?**
- 2) Identify opportunities for new workforce and affordable housing development. **Not really clear what this means? Do you mean Affordable housing for new members of the workforce?**
- 3) Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. **Would this be expected to create hundreds of thousands of new units.**
- 4) Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions. **List ways to do this.**

Suggest policy support and reworking the Diverse Housing Choices section of the plan to include support of ideas like the following:

Support and reference The Ahwahnee Principles. <https://www.lgc.org/who-we-are/ahwahnee/principles/>

Support long lasting smart mobility decisions that improve the environment, create a vibrant economy and build communities not sprawl.

Support redevelopment of high density residential along transit served corridors.

Support having new housing be originally built with an accessory dwelling unit.

Support an overall trend to reduce of lot size minimums in the region by 20%.

Support the concept of building to the maximum density allowed in a residential zoning district rather to the minimum density.

Support a policy that wherever possible in all new specific plans placement of high density housing residential shall occur near planned schools, employment and retail areas.

Support a regional mode shift to walking and bicycling <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>

Support the provision of designated areas for employment (beyond a few retail commercial and school sites) in all new specific plans.

Support the provision of connected street grid system by limiting cul-de-sac length to no more than 250 feet.

Support minimizing the size of a block, through the use of a block size maximum of 1,600 feet.

Support bike and pedestrian through block connectivity through subdivisions by providing one such connection every 600 feet.

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Support allowing 100 percent housing on vacant or abandoned property zoned for commercial retail use to help the viability of existing commercial uses (25 solutions article below).
 Support local jurisdictions efforts to provide a temporary 30% reduction on all residential impact fees for (3 -5 years) to encourage housing production.
 Support housing policy that provides net zero energy use that would build on the 1 million solar homes California has with a goal of greatly increasing this total (roughly 12.5 million dwelling units exist with a need for 3.5 million more dwelling units)
 Support allowing a reduction in setback standards to Uniform Building Code minimums on side yards and limit front and rear yard setbacks to no more than 10 feet.
 Support the elimination for any required covered off street parking to support development of more housing units.
 Support development of high density housing in unused portions of commercial shopping centers/office etc. parking lot areas.
 Support allowing a reduction in local public street width standards and/or to allow reduced width private streets to encourage infill development.
 Support increasing residential building height standards in residential zoning districts to allow greater building square footage.
 Support any regional efforts to develop the missing middle housing of the past few decades.
<https://missingmiddlehousing.com/>

In the Measuring our Progress portion of Connect SOCAL Pages 118-147 it seems reasonable to assume that much of the "progress" in congestion relief and other areas has to do with 91,000 people per year leaving the SCAG region due to the high cost of housing and other reasons since 2014 as noted on Page 16 of Connect SOCAL discussion on mega trends. Is this real progress or an abandonment trend that needs to be reversed?

<https://www.worldpropertyjournal.com/real-estate-news/united-states/washington-dc-real-estate-news/up-for-growth-national-coalition-econorthwest-holland-government-affairs-housing-underproduction-in-the-us-2018-housing-shortage-data-10842.php>

<https://www.curbed.com/2019/5/15/18617763/affordable-housing-policy-rent-real-estate-apartment>

https://ucreconomicforecast.org/wp-content/uploads/2019/04/SCAG_Housing_White_Paper_Digital_4_11_2019_Revise.pdf

<https://urbanize.la/post/25-solutions-builder%E2%80%99s-perspective-fix-california-housing-crisis>

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Caltrans District 11

Draft Connect SoCal

- Truck Parking/Truck driver shortage: Please address and include truck parking needs in the SCAG region. In addition, the shortage of truck drivers is commonly cited as the number one problem in the trucking industry.
- Freight Projects List: Please include transportation projects that have been identified in the *2014 California-Baja California Border Master Plan* and the *Draft 2020 California Freight Mobility Plan*. Examples of projects that are missing in the Goods Movement Project List are: Forrester Road, Commercial Vehicle Inspection Facility modernization project at Calexico East Port of Entry (POE), bridge and highway realignment to Andrade POE, widen State Route 98 (SR-98) between Dogwood Road and V.V. Williams Ave., widen SR-98 between Ollie Ave. and Rockwood Dr., widen Menvielle Road to four lanes from Carr Road to SR-98, implement Border Wait Times System, and modernize existing truck parking/staging areas for near-zero to zero emission infrastructure truck shore power.
- National Freight Highway Network (NFHN): Please include and identify routes that have been designated as Critical Urban Freight Corridors and Critical Rural Freight Corridors. These are public roads in urbanized and rural areas which provide access and connection to the Primary Highway Freight System and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.
- California Sustainable Freight Action Plan (CSFAP): Please describe how the RTP supports the goals and vision of the CSFAP. This State plan provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. Please include the Advanced Technology Corridors at Border POEs CSFAP pilot project as part of the RTP Goods Movement Environmental Conditions and Technology Advancement Strategies.
- Agriculture and Mining: Little is discussed regarding needs and availability of producing agricultural and mining (e.g., aggregate) commodities among border or rural areas of the region (Imperial and Coachella Valleys, Ventura, etc.). Safety, maintenance and asset management (e.g., State Highway Operation and Protection Program [SHOPP]) needs could be mentioned on lower-volume/seasonal routes impacted by heavy machinery movements/emissions.

Technical Reports

- Highways and Arterials Technical Report Page 8 references SB1 in the context of performance measures and Page 14 mentions the Proposition 1B Corridor Mobility Improvement Account (CMIA) requirements for Corridor System Management Plans (CSMP) and components of those documents. SB1s requirement of corridor plans is not addressed nor are the competitive programs such as Solutions for Congested Corridors

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Program (SCCP), Trade Corridor Enhancement Program (TCEP) and Local Partnerships. Although not impactful for the California Environmental Quality Act (CEQA), the discussion is important for future funding opportunities and possible planning efforts.

- Page 10, Transportation Safety & Security: Table 3 - Is Fatality and Injury prediction table approved by Caltrans?
- Table 1 – FTIP Projects – FTIP ID Number IMP140804: Route should be “8”, not “999”.
- Table 2 – Project Number IMP0042A: The Demo funds identified for this project have been repurposed to a different phase for SR98. As such, this project should be removed.
- Additional project: Please add: SR186 All American Canal Bridge – Replace bridge to accommodate two vehicle lanes, shoulders and pedestrian/bicyclist facilities. Cost \$40M; Construction Year 2027.
- Transit: There are no comments related to any specific projects; however, the District would like to recommend that consideration be given to include bicycle and pedestrian facility connections and protection by enhancing visibility of bicyclists and pedestrians as well as to provide wayfinding signage to guide the active transportation population to facilities to help them complete their trip.

Caltrans District 12

Draft Connect SoCal

- The Draft Connect SoCal Plan provides long term guidelines and strategies for the SCAG region. These guidelines and strategies should align with State goals as laid out in State planning documents such as the California Transportation Plan (CTP), California State Rail Plan, California Freight Mobility Plan (CFMP), California Aviation System Plan (CASP), and State Bicycle and Pedestrian Plan. As stated in our previous comment letter during the Notice of Preparation (NOP) process, dated February 22, 2019, we encourage the incorporation of State planning documents to align the 2020-2045 RTP/SCS with State goals.
- The SCAG region has many highly urbanized areas that have increasing traffic demand due to population growth and economic development and have limited available Right-of-Way (ROW) for transportation purposes. To enhance the operability of current facilities, strategies such as Managed Lanes would provide efficient usage of current capacity, improve travel times, reduce vehicle miles traveled (VMT), provide alternative means of transportation and may provide revenue for other transportation improvements. These strategies are consistent with state, regional and local goals and objectives. As stated in comment 10 of our previous comment letter, the Department requests SCAG review and incorporate the Orange County Managed Lanes Feasibility Study (MLFS) and the Orange

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County Managed Lanes Network Study (MLNS) in the 2020-2045 RTP/SCS. The recommendations from these studies have not been included in the 2020-2045 RTP/SCS. These studies and the proposed projects, including District 12's I-5 Managed Lanes Project, reflect SCAG's Goals and Guiding Principles found on pages 9 and 10 by placing a high priority on improving mobility and reliability. The Department requests that District 12's I-5 Managed Lanes Project, for the project approval and environmental document (PA/ED) component, be included in the final 2020-2045 RTP/SCS and also amended to the 2019 FTIP, per our October 2019 request to Orange County Transportation Authority (OCTA).

- Climate change impacts have become a major concern for planning agencies at all levels. As required by California Senate Bill 379, many regional and local planning agencies have started developing plans to address climate change issues. While the 2020-2045 RTP/SCS includes climate change considerations in multiple sections of the document, it should incorporate climate change plans from other agencies into the document. Further clarification should also be provided to establish which plans supersede. As requested in our previous comment letter, please review the Vulnerability Assessment for Orange County and coordinate with Caltrans for future implementation.
- Caltrans District 12 appreciates the robust and thorough discussion in the RTP's Active Transportation Technical Report and supports SCAG's efforts in encouraging Complete Streets. This technical report aligns with Caltrans' goals and objectives. Complete Streets infrastructure benefits all roadway users and promotes mobility, equity, accessibility and regional connectivity, all while decreasing congestion and improving air quality.

Active Transportation Technical Report

The following areas of the Active Transportation technical report that accompany the 2020-2045 RTP/SCS require consideration for revision:

- Page 3, first paragraph: under Section "Defining Active Transportation", add walking as part of the examples.
- Page 3, paragraph eight: consider making a distinction between traditional active transportation modes and micro-mobility modes.
- Page 5, Table 1 second row, second column: consider adding increased connectivity as part of the impacts.
- Page 7, paragraph eight: under Regional Significance consider discussing ADA-friendly infrastructure in one of the subsections. Active Transportation infrastructure also benefits ADA-reliant users by increasing these users' mobility and accessibility.
- Page 19, paragraph 4: verify the list of cities that currently have bike share programs. Some of the cities listed may no longer have these programs available. For example, the cities of

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Bellflower and Paramount had a partnership with dockless bikeshare company Ofo in 2017. However, Ofo has since backed out of the United States market.

- Page 79 and 85, Bicycle Master Plans, and Pedestrian Master Plans: the City of Irvine is currently developing an Active Transportation Plan and the City of Santa Ana has recently finalized its Active Transportation Plan. Additionally, the Orange County Transportation Authority has bikeway studies on four sub-areas of Orange County--North, West/Central, South and Foothills.
- Page 98, second paragraph and page 99 Exhibit 13: clarify that the City's protected bike lane along Bristol Street is a class IV facility and incorporate it into Exhibit 13.
- Southern California ports are seeing increased demand as trade with the Pacific Region continues to grow. SCAG should continue to plan for increased truck traffic within the region. Additionally, consider a discussion of the lack of available safe, secure and accessible parking for long distance freight vehicles. Projected growth of truck traffic and the demand for truck parking will continue to outpace the supply of public and private parking facilities.
- Due to the high number of residential developments, related functions such as micro-transit and micro-freight, need to be analyzed. Optimizing curb space locations and micro-freight and micro-transit routes may reduce congestion, VMT, and wait times for users. Additional multi-modal transportation options such as bus rapid transit and parallel light rail provide alternative options for travelers.
- The Department supports SCAG's efforts to create an integrated transit payment system, discussed in the Shared Mobility and Mobility as a Service section. Please coordinate with Caltrans since we are currently developing a similar statewide program. These efforts may improve the accessibility and affordability of transit services which may result in reduced emissions, VMT and congestion.
- Consider incorporating discussion of policies of various agencies to promote existing and future Park and Ride lots that may increase carpooling, bicycling and transit use as options for commuters. This would reduce VMT and congestion.
- Due to ROW constraints on the State Highway System (SHS), implementing Intelligent Transportation Systems strategies, as discussed in the core vision of the 2020-2045 RTP/SCS, would allow for enhanced capabilities to protect transportation systems and shorten response times, enhancing operations of the SHS.
- Review of the Project List has highlighted the following inconsistencies:
 - Project FTIP ID – ORA000820 – SR 57 Truck Climbing has a total Cost of \$164.2 million
 - Project FTIP ID – ORA131301 – SR 55 Add 1 Mixed Flow Lane from I-5 to SR 91 has a total Cost of \$151.1 million

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- Project FTIP ID – ORA131303 – SR 57 Orangewood to Katella has a total Cost of \$70.6 million
- Project FTIP ID – ORA131304 – I-405 Add 1 Mixed Flow Lane from I-5 to SR 55 has a total Cost of \$176 million

Attachment B

Caltrans District 7 – Environmental Planning

- Footnote 75: the hyperlink to the Induced Travel Calculator may need to be corrected by simply removing “on October 25” from the clickable hyperlink. The hyperlink currently includes the phrase “on October 25” when clicked. 4
- Page 3.17-8, Regional High-Occupancy Vehicle (HOV) System and Park and Ride System: please clarify if the HOV system described in this section includes the High Occupancy Toll (HOT) / express lanes. General information on the HOT lanes in the SCAG region (Los Angeles County in particular) and how HOT/Express and HOV lanes differ may be useful for this section. 5
- Wildlife Crossing: Besides the Liberty Canyon Wildlife Crossing that connects the Santa Monica Mountains to the open space of Simi Hills and Santa Susana Mountains, there is another opportunity for a different Wildlife Crossing at Conejo Grade around Camarillo and Thousand Oaks that needs to be looked at. 6
- SCAG, Metro, and Caltrans should fund projects that will improve culverts for wildlife usage, especially in the rural areas of Ventura County. 7
- There is also opportunity for wildlife crossings, connectivity, and corridor improvements on State Route 2 and Interstate 210 around La Cañada Flintridge, State Route 118, and State Route 126 around the Moorpark and Filmore area. 8
- Rocky Peak on State Route 118 needs fencing and habitat connectivity including corridor improvements for wildlife. 9
- Areas along Interstate 5 and State Route 14 at Sylmar, Granada Hills and north of Santa Clarita need open space to be connected (habitat connectivity) for wildlife movement. 10
- Access to public parks and open spaces need to be improved. Special buses at discount rate (to take people from inner-city to these parks) will be very helpful to inner-city parents and families since many inner-city neighborhoods are far from parks that have interesting resources. 11
- Besides light-rails and all proposed transportation projects, governmental agencies within Downtown Los Angeles and other large cities should consider alternative working hours and equip their staff to telecommute 3-4 times a month. This will improve lives and air quality. 12
- Cal-Fire should have fire continues education for areas in the cities that borders open spaces. Training should be giving to volunteers and people who are willing to assist Fire 13

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Officers and crew. We strongly encourage utility companies to place their utilities line underground (buried) in areas that are prone to wildfires.

13

- We believe some cities within SCAG's Region collect rainwater and run-off water. Since the average annual rainfall is between 12-22 inches, SCAG should encourage cities to capture rainwater, treat it and release it to our dry ravines.

14

END OF CALTRANS COMMENT LETTER

January 23, 2020

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GOVERNOR



Kome Ajise
Executive Director
Southern California Association of Governments (SCAG)
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

Dear Mr. Ajise:

The California High-Speed Rail Authority (Authority) received the Public Notice of Availability letters from SCAG for the Connect SoCal Draft Plan and the Connect SoCal Draft Program Environmental Impact Report (PEIR), dated November 14, 2019 and December 9, 2019 respectively. Connect SoCal is SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the Southern California region, covering the timeframe from 2020 to 2045.

The Authority has reviewed both the Connect SoCal Draft Plan and the Connect SoCal Draft PEIR, and respectfully provides SCAG with the following comments:

- Draft Plan, page 69: The Authority will release its Draft 2020 Business Plan in February 2020 for public review and comment. Final adoption of the 2020 Business Plan is expected at CHSRA's April 2020 Board meeting, for submittal to the State Legislature by May 1, 2020.
- Draft Plan, page 69: The Authority has not yet executed a Proposition 1A funding agreement with Los Angeles Metro for the LINK US project. The Authority, Metro, and the California State Transportation Agency (CalSTA) did execute a Memorandum of Understanding (MOU) in September 2019 which established a commitment for these agencies to work together cooperatively towards taking the necessary steps for this funding agreement to be established.
- Draft Plan, Passenger Rail Technical Report, page 13: The Authority 2018 Business Plan does include discussion of the Phase 2 system from Los Angeles to San Diego.
- Draft Plan, Passenger Rail Technical Report, page 14: Current schedules for the Authority's Southern California sections are as follows:
 - Bakersfield to Palmdale – Draft EIR/EIS documents are expected in early 2020, and Final EIR/EIS documents are expected in 2021.
 - Palmdale to Burbank – Draft EIR/EIS documents are expected in 2020, and Final EIR/EIS documents are expected in 2021.

- Burbank to Los Angeles – Draft EIR/EIS documents are expected in early 2020, and Final EIR/EIS documents are expected in 2021.
- Los Angeles to Anaheim – Draft EIR/EIS documents are expected in 2020, and Final EIR/EIS documents are expected in 2021.
- Draft Plan, Passenger Rail Technical Report, page 31: Same comment as the Draft RTP/SCS, page 69 regarding the LINK US project.
- Draft Plan, Passenger Rail Technical Report, page 34: There is no high-speed rail station planned in Sylmar.
- Draft Plan, Passenger Rail Technical Report, page 42: Same comment as the Draft RTP/SCS, Passenger Rail Technical Report, page 13 regarding the HSR Phase 2 system. Also, remove Madera and replace with Merced.
- Draft Plan, Project List Technical Report, page 128: The projected cost to complete California High-Speed Rail Phase 1 – ENV/PE is \$332 million for the Southern California project sections. This is consistent with the CHSRA 2019 Project Update Report (PUR), released in May 2019. COMPLETION YEAR – 2021, not 2017.
- Draft Plan, Project List Technical Report, page 242: The projected cost to complete the California High-Speed Rail Phase 1 system is \$38.96 billion for the Southern California project sections. This is consistent with the Authority 2018 Business Plan Capital Cost Basis of Estimate Report, released in June 2018.
- Draft Plan, Project List Technical Report, page 242: California High-Speed Rail Phase 2 – ENV/PE can be removed from the financially constrained RTP/SCS project list.
- Draft PEIR, Financially-Constrained RTP/SCS Projects, page 128: Same comment as the Draft RTP/SCS, Project List Technical Report, page 128. In addition, the Completion Year should be changed from 2017 to 2021.
- Draft PEIR, Financially-Constrained RTP/SCS Projects, page 243: Same two comments as the Draft RTP/SCS, Project List Technical Report, page 242.

In addition, we want to highlight related work that the Authority and SCAG have done in partnership with the City of Palmdale and the City of Burbank to help fund Station Area Planning efforts that will result in infrastructure and land use changes near future HSR stations and existing Metrolink stations, including the Palmdale Transit Area Specific Plan, and the Burbank Golden State Specific Plan. Both these efforts are ongoing and are related to Connect SoCal.

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4

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Mr. Kome Ajise
Page 3
January 23, 2020

STA-2

Thank you for your consideration of these comments. If you have any questions, please contact me by e-mail at Margaret.Cederoth@hsr.ca.gov or by phone at (916) 669-6565.

5

Sincerely,



Margaret (Meg) Cederoth
Director of Planning and Sustainability
California High-Speed Rail Authority

Cc: Noopur Jain, Ben Lichty



Barry A. Rondinella
A.A.E./C.A.E.
Airport Director

REG-1

January 23, 2020

Draft Program EIR Comments - Connect SoCal 2020-2045 RTP/SCS
Attn: Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd., Suite 1700
Los Angeles, CA 90017

Dear Mr. Ok:

John Wayne Airport/Orange County (JWA) appreciates the opportunity to review and comment on the Southern California Association of Governments (SCAG) Draft Program EIR for Connect SoCal 2020-2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). During the EIR preparation process, SCAG requested, and JWA submitted, specific aviation-related data for use in preparing the document. The data that JWA submitted to SCAG included, but was not limited to, JWA's legal agreement parameters including operational and capacity limits; current passenger, aircraft and cargo statistics; recent aviation forecast information; and JWA's most recent Economic Impact Study.

In reviewing the Aviation Appendix, the information regarding John Wayne Airport is generally accurate and consistent with the information we provided. We would like to suggest the following minor changes to Appendix 3.13 Draft Airport Noise Overview.

1. We suggest that the John Wayne Airport "location" section on page 12, be revised as follows: "There ~~is~~ are residential land uses interspersed among the commercial uses with single-family and multi-family land uses .25 miles south west of the runway. ~~and~~ There are also residential land uses (single family and multi-family) ~~beyond the commercial land use~~ approximately .75 miles to the north, .5 miles to the west, and one mile to the east. ~~and approximately .25 miles to the south.~~ Figure 6, John Wayne Airport Location, illustrates the airport relationship to these land uses."

Please note that Figure 6 does not show the location of the residential uses.

Figure 8 shows the residential uses south of the airport, but not to the west, north or east.

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Costa Mesa, CA
92626-4608
(949) 252-5171
(949) 252-5178 FAX
www.ocair.com



1

2

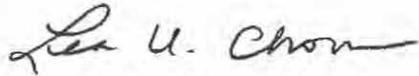
2. Page 15, "Existing Conditions" should also be revised to be consistent with the comment above.

3

Thank you for the opportunity to comment on the Draft PEIR for the 2020 SCAG Regional Transportation Plan/Sustainable Communities Strategy. Please contact me with any questions at (949) 252-5123 or lchoum@ocair.com.

4

Sincerely,



Lea U. Choum
Planning Manager

cc: L.G. Serafini



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

*Office of the Executive Officer
Wayne Nastri
909.396.2100, fax 909.396.3340*

January 24, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Re: Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal Plan) and Draft Program Environmental Impact Report

Dear Mr. Ajise:

Thank you for the opportunity to comment on SCAG’s Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal Plan) and the Draft Program Environmental Impact Report (PEIR). Attached are comments from the South Coast AQMD staff on the Connect SoCal Plan (Attachment 1) and the Draft PEIR for the Connect SoCal Plan (Attachment 2).

1

The 2023 attainment date for the 1997 federal 8-hour ozone standard represents a significant challenge to the South Coast Air Basin (Basin). This attainment challenge (including potential sanctions on highway funding) should be highlighted in the Plan as a regional priority. With goods movement accounting for a significant portion of the mobile source emissions in the Basin, there is a critical need for a new and innovative regional goods movement system that needs to be pursued and developed through a collaborative process. More detailed comments on goods movement are included in Attachment 1.

2

After a review of the Draft PEIR’s air quality and health risk analyses and supporting technical documents, the Draft PEIR likely under-estimated the air quality impacts of the Plan. The Draft PEIR improperly credits the Plan with emission reductions in air quality and health risks that will occur independent of the Plan due to adopted state and federal rules and regulations. Second, SCAG did not utilize South Coast AQMD’s CEQA significance threshold of for health risk impacts. More detailed comments on the Draft PEIR are included in Attachment 2.

3

We are fully committed to continuing to work collaboratively with SCAG and other stakeholders to achieve the vision outlined in this Plan.

4

Sincerely,



Wayne Natri
Executive Officer

CC: Mr. Ping Chang, Southern California Association of Governments
Mr. Roland Ok, Southern California Association of Governments
Ms. Karen Calderon, Southern California Association of Governments

Attachments

Attachment 1 – Comments on Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal Plan)

Attachment 2 – Comments on Draft Program Environmental Impact Report for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

Attachment 1 - Comments on SCAG's Draft 2020-2045 Regional Transportation Plan /Sustainable Communities Strategy (Connect SoCal Plan).

Attainment of federal air quality standards, a regional priority - The South Coast Air Basin (Basin) is facing a daunting challenge to meet the upcoming deadlines for attaining the health-based federal ozone standards. NOx is the key pollutant causing high ozone levels in our region and must be reduced by 45% and 55% beyond all existing regulations by 2023 and 2031, respectively, to meet federal standards and achieve healthy air for the region. Because over 80% of the NOx in our region is from mobile sources, significant reductions have to come from goods movement sectors (i.e., trucks, cargo handling equipment, rail and ocean-going vessels). Aggressive regulations, advancements in technologies, innovative solutions and integrated land-use and transportation planning as well as coordinated efforts among all stakeholders, at local, state and federal levels are essential to achieve the needed reductions from goods movement activities. We strongly recommend that the challenge of attaining the federal air quality standards be presented in the Connect SoCal Plan as a regional priority calling for a regional solution.

Potential sanctions on transportation funding - On December 31, 2019, South Coast AQMD and California Air Resources Board submitted a jointly-developed Contingency Measure Plan (Plan) to the U.S. EPA to address the required NOx reductions for attaining the 1997 8-hour ozone standard in 2023. The Plan describes additional regulatory actions, programs, and incentive funding South Coast AQMD and CARB have developed to achieve additional emission reductions, and it highlights the critical need for federal regulatory actions and/or funding to address sources under federal jurisdiction (i.e., aircraft, ships, trains, out-of-state trucks), in order to achieve this standard. If U.S. EPA disapproves the Plan, a federal sanctions clock will be triggered, culminating in highway sanctions if the underlying deficiency cannot be corrected. The imposition of highway sanctions results in the loss of federal funds for transportation projects except for certain safety, transit, and air quality beneficial projects. It should be noted that the U.S. EPA does have the option, under the Clean Air Act section 110(m), to apply discretionary sanctions at any time after a disapproval is made. Given the detrimental impact of sanctions to regional transportation planning, we recommend that SCAG highlight the potential sanctions on transportation funding in the Connect SoCal Plan and provide an estimate of the potential impacts.

Need for new innovative regional freight transportation systems - Although goods movement in the SCAG region provides significant positive local, regional and even national economic benefits, it also brings major challenges, including adverse impacts on local and regional air quality, congestion, safety, and roadways. The projected growth in goods movement activity in the SCAG region will further exacerbate the existing conditions. Given the complex nature of the existing transportation networks used for moving import and export cargo, a comprehensive regional solution is needed to address these challenges while improving overall system efficiency. We believe that fundamental changes to the existing networks used for moving cargo need to be earnestly explored and considered.

To signal these needed changes, we recommend that the goods movement project list include at least a \$10 billion funding allocation to identify and deploy innovative zero-emission cargo movement system(s) through a collaborative stakeholder process. The proposed project in the

Connect SoCal Plan will highlight the critical need for a new and innovative goods movement system for the region and will facilitate solicitation of federal funding. South Coast AQMD is fully committed to participate in this process and provide technical assistance.

Ports container forecast – The Ports of Los Angeles and Long Beach handled 17.5 million twenty-foot equivalent unit (TEU) containers in 2018, which represents a 49% increase since the last recession in 2009. The 2016 Mercator Report has provided different container growth forecasts under high growth, expected, and low-growth scenarios. Although the projected growth is expected to continue until at least 2040, the Ports are projected to reach capacity before then. We recommend that the Connect SoCal Plan reflect the latest container forecast as well as identify a potential range of uncertainties based on different forecast scenarios which would also affect the port truck vehicle miles traveled (VMT) and associated emissions.

Goods Movement Environmental Strategy and Technology Advancement Plan – Although we fully support the proposed action plan for zero-emission (ZE) technologies, we recommend that the action plan be expanded to include near-zero (NZE) emission technologies with the acknowledgement that these technologies for medium-duty and heavy-duty trucks are currently in the commercial deployment phase, as discussed in the next section.

Near-term technologies commercially available now to be readily deployed within the next few years - Near-zero natural gas engine technologies are classified as one of the near-term truck technologies in the draft Goods Movement Technical Report (Appendix 1). However, natural gas engine models offered by Cummins Westport Inc. (CWI) are commercially available today and are certified to meet the optional low NOx standard of 0.02 g/bhp-hr. CWI offers the smaller L9N engine that is well suited for transit buses and refuse trucks as well as the larger 12L engine with up to 400 hp to support the demanding drayage duty cycles. In addition, CWI has recently received a CARB certification for their 6.7L engine to support the medium-duty vehicles segment which includes school buses, shuttles and medium-duty trucks. Additional fueling stations will be needed to support the expected increase in deployment of CNG trucks in the near term.

Battery electric trucks have also made significant progress in recent years, especially for the medium-duty vehicles sector. Captive fleets such as shuttles and delivery vans with fixed routes are a good match for this technology as their daily operations can be sufficiently supported by currently available products with 100 to 150 miles in operating range. In addition, because these vehicles are generally recharged overnight at their facilities, charging infrastructure needed to support these vehicles can be tailored based on the anticipated demand and provided in centralized locations. Based on the latest eligible vehicles list for the Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP), there are several medium-duty trucks and vans that are commercially available for some applications and more products are expected to follow in the near future to support a wider range of vehicle types and vocations. As such, medium-duty battery electric trucks should be classified under the near-term technologies, bifurcating them from heavy-duty battery electric trucks which may require a longer timeline for commercialization. We recommend that these updates for be reflected in the Goods Movement Technical Report.

Encouraging and incentivizing deployment of NZE and ZE technologies - In addition to incentive funding offered by the California Air Resources Board and South Coast AQMD to help offset the higher purchase price of NZE and ZE trucks, a dedicated lane for these trucks on highways and surface streets as well as at port terminals and railyards can provide an effective non-monetary incentive measure to promote and accelerate deployment of NZE and ZE technologies. We recommend that these types of incentive measures (e.g., dedicated lanes, parking spots/curb areas for deliveries) be considered and incorporated into the proposed goods movement projects, where appropriate.

Zero-Emission Infrastructure Study - We appreciate SCAG's proposed study on charging infrastructure needed for electric trucks. This effort is timely and can work well in partnership with other efforts currently underway with the Public Utilities Commission¹ (PUC) and the California Energy Commission² (CEC). While those two efforts are focused on the needs and limitations of the electric grid, SCAG can provide a critical perspective and bring unique expertise as a regional transportation planning agency. We encourage SCAG to coordinate with PUC, CEC, and other key stakeholders including local utilities as this proposed study proceeds. We look forward to continuing to engage with SCAG on this effort.

¹ Proceeding R1812006 (Transportation Electrification Framework):

https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1812006

² CEC is conducting multiple efforts to evaluate transportation electrification needs, including through its current Integrated Energy Policy Report work, and through work to implement AB 2127.

Attachment 2 - Comments on SCAG’s Draft Program Environmental Impact Report for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for SCAG and should be incorporated into the Final PEIR.

6

South Coast AQMD Staff’s Summary of Project Description

The 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range transportation and land use plan for six counties and 191 cities in Southern California (Proposed Project). It takes into account the changing socioeconomic, transportation, financial, technological, and environmental conditions, and serves as a blueprint to guide the region’s future transportation and land use development for more than 20 years. It includes a plan of transportation investments and strategies to enhance the performance and safety of the region’s transportation network that comprises of highways, arterials, roadways, transit systems, rail, seaports, and airports. It integrates technologies for the transportation and movement of people and goods, including zero and near-zero emissions technologies and infrastructure. The Proposed Project also includes land use strategies that are coordinated with transportation strategies to accommodate a net growth of 3.2 million people, 1.4 million households, and 1.4 million jobs between 2019 and 2045¹ around job centers, transit priority areas, high quality transit areas, neighborhood mobility areas, and livable corridors. It balances transportation and land use strategies to meet the region’s needs in improving air quality and public health, reducing greenhouse gas emissions, and building a more sustainable, equitable, and economically vibrant future.

7

Summary of South Coast AQMD Staff’s Comments on the Air Quality and Health Risk Assessment Analyses in the Draft PEIR

Based on reviews of the Draft PEIR and supporting technical documents, South Coast AQMD staff has ten comments on the air quality and health risk analyses. A summary of these comments is provided as follows with additional details provided later in this attachment.

1. CEQA Baseline: SCAG quantified on-road mobile source emissions for the existing conditions without the Proposed Project (year 2019) and the future conditions with the Proposed Project (year 2045) and compared those emissions to determine the level of significance. Based on this analysis, the Proposed Project would mostly reduce emissions, except for PM2.5 and PM10 emissions in some parts of the region due to increases in vehicle miles travel (VMT) between 2019 and 2045 in all counties². This analysis approach improperly credits the Proposed Project with emission reductions in air quality and health risks that will occur independent of the Proposed Project due to adopted state and federal rules and regulations. SCAG should compare the emissions with the Proposed Project to the emissions without the Proposed Project in the same interim analysis years and use the comparison to determine the level of significance for the Proposed Project’s air quality impacts from on-road mobile sources.

8

¹ Draft PEIR. Page 2.0-14.
² *Ibid.* Pages 3.3-57 to 61.

- 2. Air Quality CEQA Thresholds of Significance: SCAG quantified the Proposed Project’s on-road mobile source emissions of criteria pollutants for the region but did not compare the South Coast AQMD’s portion of the emissions to South Coast AQMD’s regional air quality CEQA significance thresholds to determine the level of significance. Evaluation of air quality impacts, unlike some other impact areas, easily lends itself to quantification. Not only does quantification make it easier for the public and decision-makers to understand the breadth and depth of the potential air quality impacts, but it also facilitates the identification of mitigation measures required to reduce any significant adverse air quality impacts. SCAG should identify the South Coast AQMD’s portion of the on-road mobile source emissions and compare those emissions to South Coast AQMD’s regional air quality CEQA significance thresholds in the Final PEIR to determine the level of significance. 9

- 3. Interim Analysis Years: The air quality analysis in the Draft PEIR included only two analysis years: baseline year (2019) and buildout year (2045). The overall emission rates of vehicles and trucks are generally higher in earlier years as more stringent emission standards and cleaner technologies have not been fully implemented, and fleets have not fully turned over. With only two analysis years for air quality, the Draft PEIR did not fully and adequately disclose the peak daily emissions from on-road mobile sources. SCAG should include interim analysis years for the air quality analysis, corresponding to the same interim analysis years (i.e., year 2020, year 2030, and year 2035) that were used to quantify the Proposed Project’s greenhouse gas emissions. 10

- 4. Air Quality Impact Analysis: The Draft PEIR discussed the existing air quality conditions based on the South Coast AQMD’s 2016 AQMP forecasts, but did not quantify emissions from implementing the Proposed Project’s transportation strategies for off-road mobile sources (e.g., locomotives, ocean-going vessels, commercial harbor craft, cargo handling equipment, farm equipment, and aircraft³) or land use strategies. However, SCAG quantified GHG emissions for off-road vehicles (rail, aviation, and ocean-going vessels), building energy, and water-related energy consumptions but did not quantify emissions from criteria pollutants for these sources. Therefore, the analysis approach for air quality is not consistent with the GHG emissions analysis which included both on-road and off-road mobile sources, and should be revised in the Final EIR. 11

- 5. Air Quality Impacts from Overlapping Construction and Operational Activities: The Draft PEIR did not analyze a scenario where construction activities overlap with operational activities. Since the Proposed Project will be implemented over a period of 20 years, an overlapping construction and operation scenario from transportation and land use projects is reasonably foreseeable and should be analyzed in the Final PEIR. 12

- 6. Health Risk Assessment (HRA) Analysis: SCAG did not utilize South Coast AQMD’s CEQA significance threshold of 10 in a million to determine the level of significance for the Proposed Project’s health risk impacts. Even though some of the transportation segments that were selected for the HRA analysis show cancer risk that would substantially exceed the significance threshold (e.g., 41.3 in a million), SCAG found that the Proposed Project’s 13

³ *Ibid.* Page 3.2-6.

health risk impacts would be less than significant⁴ because cancer risk for each transportation segment in 2045 is significantly reduced when it is compared to that in 2019. This is an improper comparison to determine the level of significance for cancer risk and should be revised in the Final EIR. (See also Comment No. 1).

13

7. Project-level Air Quality Mitigation Measure: SCAG recommended the use of Tier 4 construction equipment by projects within 500 feet of residences, hospitals, or schools. To encourage the use of Tier 4 Final construction equipment by all types of transportation and land use projects, South Coast AQMD staff recommends the use of Tier 4 Final construction equipment and more information on the implementation and monitoring of this mitigation measure be provided in the Final EIR.

14

8. Additional Project-Level Air Quality Mitigation Measures for On-Road Mobile Sources: The Draft PEIR serves as the first-tier, programmatic level analysis that can provide guidance to subsequent, project-level environmental analyses. To facilitate this, South Coast AQMD staff recommends that SCAG include additional project-level mitigation measures for on-road mobile sources in the Final EIR. SCAG should also review the Community Emission Reduction Plans that are prepared pursuant to Assembly Bill 617 to explore whether additional mitigation measures can be identified and included in the Final EIR.

15

9. Additional Project-Level Air Quality Mitigation Measures for Off-Road Mobile Sources: The Draft PEIR did not include project-level air quality mitigation measures for off-road mobile sources (e.g., aircraft and ground service equipment, cargo handling equipment, locomotives, shore power and infrastructure, and ocean-going vessels). Since the Proposed Project includes transportation strategies for rail, seaports, and airports, SCAG should develop and include project-level mitigation measures or performance standards for off-road mobile sources as part of PMM-AQ-1 in the Final EIR.

16

10. Health Risk Reduction Strategies: Although the Proposed Project would result in development of new transportation projects near existing sensitive receptors or locating new receptors near transportation projects, the Draft PEIR did not include a discussion on how to disclose health risks and reduce exposures when new sensitive land uses are sited within 500 feet of freeways or other sources of air pollution. To provide guidance for subsequent, project-level environmental analyses, South Coast AQMD staff recommends that SCAG include a discussion on the mobile source HRA analysis and health risk reduction strategies in the Final PEIR.

17

South Coast AQMD staff’s detailed comments on the Draft EIR’s air quality analysis and health risk assessment are provided as follows.

1. CEQA Baseline

Under CEQA, baseline conditions exist at the time of the environmental review is initiated or as they exist at the time the Notice of Preparation (NOP) is published, if there is a published NOP. Notwithstanding this general rule, the use of future baseline is proper in some cases, when supported by substantial evidence in the record. Consideration of future conditions in

18

⁴ Ibid. Page 77.

determining whether a project’s impacts may be significant is consistent with CEQA’s rules regarding baseline, especially when the project has a long-term implementation schedule such as the Proposed Project. “[N]othing in CEQA law precludes an agency ... from considering both types of baseline—existing and future conditions—in its primary analysis of the project’s significant adverse effects.” (*Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 454.). “Even when a project is intended and expected to improve conditions in the long term—20 or 30 years after an EIR is prepared—decision makers and members of the public are entitled under CEQA to know the short- and medium-term environmental costs of achieving that desirable improvement. ... [¶] ... The public and decision makers are entitled to the most accurate information on project impacts practically possible, and the choice of a baseline must reflect that goal.” (See also *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310).

SCAG quantified the Proposed Project’s on-road mobile source emissions for the 2019 baseline year and the 2045 future year. The 2019 existing conditions were held constant (i.e. using emission rates from year 2019) and compared to the 2045 future year (i.e. using emission rates from the future year). SCAG found that ROG and NOx emissions with the Proposed Project in 2045 would be lower than the existing conditions in 2019, but PM2.5 and PM10 emissions would increase due to VMT increases across the region⁵. This approach using a comparison between the Proposed Project’s impacts in the future year (using emission rates from year 2045) and the 2019 baseline (using emission rates from year 2019) improperly credits the Proposed Project with emission reductions that will occur independent of the Proposed Project due to adopted federal and state rules and regulations, and clean vehicle and fuel technologies, since these rules, regulations, and technologies are expected to improve air quality over time, even in the absence of the Proposed Project, which SCAG has acknowledged in the Draft PEIR⁶. For example, the California Air Resources Board’s (CARB) current regulation for trucks and buses will provide significant near-term and long-term reductions in NOx emissions from trucks and buses, at 98 tons per day for 2023⁷. Since the Proposed Project anticipates that VMT will increase between 2019 and 2045 in all counties⁸, NOx emission reductions in year 2045 are likely due to implementation of CARB’s regulation and other efforts at promoting zero and near-zero emissions vehicles and cleaner fuel standards. Therefore, the baseline used to analyze the Proposed Project’s long-term air quality impacts from on-road mobile sources in the Draft PEIR likely led to an under-estimation of actual emission increases, and is misleading and uninformative.

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The purpose of CEQA is to disclose environmental impacts from the Proposed Project to the public and decision makers to provide the public and decision makers with the actual changes to the environment from the activities involved in the Proposed Project. By taking credit for future emission reductions from existing air quality rules, regulations, and technologies that are not contributed by the Proposed Project, the Proposed Project’s air quality impacts are

⁵ *Ibid.* Pages 3.3-57 to 61.

⁶ *Ibid.*

⁷ California Air Resources Board. July 14, 2017. Trucks and Bus Regulation: On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Accessed at: <https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>, and <https://www.arb.ca.gov/msprog/onrdiesel/documents/truckrulehealth.pdf>.

⁸ Draft PEIR. Pages 3.3-57 to 61.

likely underestimated. Therefore, South Coast AQMD staff recommends that SCAG revise the air quality analysis to calculate emissions in year 2019, year 2020, year 2030, year 2035, and year 2045 with the Proposed Project and emissions in those same years without the Proposed Project. These interim analysis years correspond to the same interim analysis years that SCAG used to quantify the Proposed Project’s greenhouse gas (GHG) emissions⁹. (See also Comment No. 3). SCAG should compare the emissions with the Proposed Project to the emissions without the Proposed Project in the same interim analysis years and use the comparison to determine the level of significance for the Proposed Project’s air quality impacts from on-road mobile sources.

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2. Air Quality CEQA Thresholds of Significance

While CEQA allows that a Lead Agency may select a threshold to determine the level of significance, SCAG may not apply a threshold of significance in a manner that precludes consideration of substantial evidence demonstrating that there may be a significant effect on the environment. Evaluation of air quality impacts, unlike some other impact areas, easily lends itself to quantification. Not only does quantification make it easier for the public and decision-makers to understand the breadth and depth of the potential air quality impacts, but it also facilitates the identification of mitigation measures required to reduce any significant adverse air quality impacts. South Coast AQMD’s CEQA thresholds of significance for air quality provide a clear quantitative benchmark to determine the level of significance for a project’s air quality impacts. Therefore, for most projects within the South Coast AQMD’s jurisdiction, South Coast AQMD’s air quality CEQA significance thresholds for construction and operation¹⁰ are used to determine the level of significance of a project’s air quality impacts.

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SCAG quantified the Proposed Project’s on-road mobile source emissions of criteria pollutants for the region but did not compare the South Coast AQMD’s portion of the emissions to South Coast AQMD’s regional air quality CEQA significance thresholds to determine the level of significance. Since the South Coast AQMD relies on SCAG’s air quality analysis for on-road mobile sources, South Coast AQMD staff recommends that SCAG identify the South Coast AQMD’s portion of the on-road mobile source emissions and compare those emissions to South Coast AQMD’s regional air quality CEQA significance thresholds in the Final PEIR to determine the level of significance. Using South Coast AQMD’s CEQA significance thresholds would clearly disclose the magnitude of air quality impacts from on-road mobile sources, facilitate the identification of feasible mitigation measures, strengthen the evaluation of the level of impacts before and after mitigation measures, and contribute to the selection of a range of reasonable alternatives to the Proposed Project based on the air quality impacts.

3. Air Quality Interim Analysis Years

The air quality analysis in the Draft PEIR included only two analysis years: baseline year (2019) and buildout year (2045). (See also Comment No.1). Although the Proposed Project may not be at the peak development capacity in earlier years, it is possible that due to higher

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⁹ Draft PEIR. Section 3.8. Table 3.8-8. Page 3.8-64.

¹⁰ South Coast Air Quality Management District. March 2015. *South Coast AQMD Air Quality Significance Thresholds*. Accessed at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

emission rates of vehicles and trucks in earlier years, peak daily emissions from on-road mobile sources may occur early and gradually decrease over time. The overall emission rates of vehicles and trucks are generally higher in earlier years as more stringent emission standards and cleaner technologies have not been fully implemented, and fleets have not fully turned over. Air quality is improving over time with substantial emission reductions occurring in later years. Therefore, South Coast AQMD staff recommends that SCAG include interim analysis years for the air quality analysis, corresponding to the same interim analysis years (i.e., year 2020, year 2030, and year 2035) that SCAG used to quantify the Proposed Project’s GHG emissions¹¹, to ensure the peak daily emissions are identified and adequately disclosed in the Final PEIR. The interim analysis years will also demonstrate progress in emission reductions over time from implementing the Proposed Project’s strategies and the air quality mitigation measures included in the PEIR.

4. Air Quality Impact Analysis Based on the South Coast AQMD’s 2016 AQMP Forecasts

As stated above, the Proposed Project includes transportation strategies and investments for the region’s transportation network of roads, highway, arterials, transit, rail, seaports, and airports. It also includes land use strategies to promote a more compact form of development. To analyze the air quality impacts, SCAG used the South Coast AQMD’s 2016 AQMP forecasts of annual average off-road mobile emissions and stationary source emissions for years 2019, 2022, 2023, 2025, and 2031 in the Basin as a proxy for these emissions throughout the SCAG region¹².

This analysis approach is not appropriate for three reasons. First, the 2016 AQMP forecasts are emission inventories and projections, using 2012 as the base year and air quality measures implemented since adopting the 2012 AQMP¹³. They provide the historic (since 2012) and existing air quality conditions in 2019 at the time the Draft PEIR was prepared. Therefore, SCAG discussed the existing air quality conditions, but did not properly assess the incremental air quality impacts of direct emissions from implementing the Proposed Project’s transportation strategies for off-road mobile sources (e.g., locomotives, ocean-going vessels, commercial harbor craft, cargo handling equipment, farm equipment, and aircraft¹⁴) or land use strategies. Second, the 2016 AQMP forecasts include emission projections until year 2031. Since the Proposed Project has a planning horizon until year 2045, it is not appropriate to use the 2016 AQMP forecasts, which are baseline conditions, to analyze the air quality impacts from the Proposed Project, which will be implemented beyond year 2031. Third, the Proposed Project covers a six-county region and includes five air quality and air pollution control districts, including the South Coast AQMD. In the Draft PEIR, SCAG used the 2016 AQMP forecasts for the South Coast AQMD as a proxy for emissions throughout the entire region but did not provide emissions from other air districts or explain why it was appropriate to use the South Coast AQMD’s forecasts as a proxy for the SCAG region. Even if using the 2016 AQMP forecasts is found to be an adequate analysis methodology, SCAG only analyzed a portion of the region within the South Coast AQMD. Therefore, South Coast

¹¹ Draft PEIR. Section 3.8. Table 3.8-8. Page 3.8-64.

¹² *Ibid.* Page 3.3-55.

¹³ South Coast AQMD. Final Program EIR for the 2016 AQMP. Page 2-13. Accessed at: <http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2016/2016aqmpfpeir.pdf>.

¹⁴ *Ibid.* Page 3.2-6.

AQMD staff recommends that SCAG revise the air quality analysis in the Final PEIR based on the following recommendations.

Air Quality Analysis for Construction and Operational Air Quality Impacts

When specific development is reasonably foreseeable as a result of the goals, policies, and strategies in the Proposed Project, SCAG should identify any potential adverse air quality impacts and sources of air pollution that could occur using its best efforts to find out and a good-faith effort at full disclosure in the PEIR. The degree of specificity will correspond to the degree of specificity involved in the underlying activity which is described in the EIR (CEQA Guidelines Section 15146). When quantifying air quality emissions, emissions from both construction (including demolition, if any) and operations should be calculated. Preparing the CEQA analysis “necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can” (CEQA Guideline Section 15144).

When the precise construction and operational scenarios are unknown, SCAG should use its best efforts to identify and quantify a worst-case construction and operational air quality impact scenario that is reasonably foreseeable at the time the Draft PEIR is prepared. While this comment may not change SCAG’s findings that the Proposed Project’s construction and operational air quality impacts would be significant and unavoidable¹⁵, a quantitative analysis will facilitate the goal and purpose of CEQA on public disclosure with useful information on the magnitude of air quality impacts that could occur from implementing the Proposed Project and foster meaningful public participation and informed decision making.

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Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). As discussed in Section 2.0, *Project Description*, in the Draft PEIR, the Proposed Project anticipates an annual growth rate of 0.6 percent, resulting in a net growth of 3.2 million people, 1.4 million households, and 1.4 million jobs between 2019 and 2045¹⁶. To accommodate growth, SCAG has identified development potential around the region’s job centers, transit priority areas, high quality transit areas, neighborhood mobility areas, and livable corridors. Therefore, SCAG can and should use this information to develop a construction scenario for land use development. One way to calculate the Proposed Project’s construction emissions would be based on an estimated average annual level of development. SCAG should use the most current version of California Emission Estimator Model (CalEEMod)¹⁷ to quantify construction emissions and compare the emissions to air districts’ regional air quality CEQA significance thresholds to determine the level of significance.

Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular

¹⁵ *Ibid.* Pages 3.3-60 and 61.

¹⁶ Draft PEIR. Page 2.0-14.

¹⁷ South Coast AQMD. CalEEMod Version 2016.3.2. Accessed at: <http://www.aqmd.gov/caleemod/download-model>.

trips (e.g., on- and off-road tailpipe emissions and entrained dust). In Section 3.8, *Greenhouse Gases*, in the Draft PEIR, in addition to quantifying GHG emissions for on-road mobile sources, SCAG quantified GHG emissions for off-road vehicles (rail, aviation, and ocean-going vessels), building energy, and water-related energy consumptions in year 2019 (baseline year), year 2020 (with and without the Proposed Project), year 2030 (with the Proposed Project), year 2035 (with the Proposed Project), and year 2045 (with and without the Proposed Project)¹⁸. To be consistent with the GHG emissions analysis which included both on-road and off-road vehicles, and to provide a better and more complete understanding of the Proposed Project’s operational air quality impacts, South Coast AQMD staff recommends that SCAG quantify the Proposed Project’s operational emissions for off-road vehicles and add those emissions to on-road mobile source emissions to determine the level of significance in the Final PEIR. (See also Comment Nos 1 and 3). If emissions from off-road vehicles are not included in the Final PEIR, SCAG should provide reasons for not including them supported by substantial evidence in the record.

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5. Air Quality Analysis – Overlapping Construction and Operational Activities

Based on a review of the air quality analysis, South Coast AQMD staff found that SCAG did not analyze a scenario where construction activities overlap with operational activities. Since implementation of the Proposed Project is expected to occur over a period of 20 years, an overlapping construction and operation scenario from transportation and land use projects is reasonably foreseeable. Therefore, South Coast AQMD staff recommends that SCAG discuss an air quality impact scenario where construction and operational activities overlap and make a significance determination in the Final PEIR; otherwise, SCAG has not discussed the Proposed Project’s air quality impacts from overlapping construction and operational activities that will likely take place during the implementation of the Proposed Project in the PEIR.

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6. Health Risk Assessment (HRA) Analysis

Implementation of the Proposed Project would result in development of new transportation projects near existing sensitive receptors or locating new receptors near transportation projects¹⁹. SCAG conducted a mobile source HRA analysis to evaluate the cancer risk for residents from exposures to DPM emissions from 16 transportation segments throughout the SCAG region. As shown in Table 3.3-16 in the Draft PEIR, the highest cancer risk would be 41.3 in a million along Interstate 15 in the Victorville area in San Bernardino County (Segment 13: SB I-15 VIC), followed by 30.9 in a million along Interstate 710 in the Compton area in Los Angeles County (Segment 4: LA I-710)²⁰. Because cancer risk for each of transportation segment in 2045 is significantly reduced when it is compared to that in 2019, SCAG determined that the Proposed Project’s health risk impacts would be less than significant.

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South Coast AQMD staff does not agree with SCAG’s significance determination. It is not appropriate to determine the level of significance for cancer risk based on a comparison between the existing condition (year 2019) and the future condition (year 2045). (See also

¹⁸ Draft PEIR. Pages 3.8-62 to 66.

¹⁹ *Ibid.* Page 3.3-76.

²⁰ *Ibid.* Table 3.3-16.

Comment No. 1 on CEQA Baseline). To determine the level of significance for cancer risk, South Coast AQMD staff recommends that SCAG compare the maximum exposed individual residential cancer risk for each of the transportation segments in 2045 to South Coast AQMD’s CEQA significance threshold of 10 in a million for cancer risk in the Final PEIR. As shown in Table 3.3-16, 12 of 16 transportation segments would exceed the CEQA significance threshold of 10 in a million for cancer risk.

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7. Recommended Revisions Existing Project-Level Mitigation Measure (PMM-AQ-1 q))

SCAG included a project-level air quality mitigation measure (PMM-AQ-1 a) through q) for consideration by lead agencies that implement individual transportation and land use projects. South Coast AQMD staff recommends that SCAG incorporate the following revisions to PMM-AQ-1 q) in the Final PEIR. The recommended revisions will provide more details on the requirement for Tier 4 construction equipment, provide guidance on project-level implementation and monitoring, and facilitate CEQA streamlining and tiering as an option from the PEIR by subsequent, project-level environmental analyses, where appropriate.

- a) **PMM-AQ-1 q)** ~~Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). Include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit’s certified tier specification or model year specification shall be available upon request at the time of mobilization of each applicable unit of equipment. Require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance, and conduct regular inspections to the maximum extent feasible to ensure compliance. In the event that construction equipment cannot meet the Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer’s recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should be made available for inspection and remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds.~~

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8. Additional Recommended Project-Level Mitigation Measures

CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse impacts. The Proposed Project is a blueprint for the region’s future development. The Draft PEIR for the Proposed Project serves as the first-tier, programmatic level analysis that can provide guidance to subsequent, project-level environmental analyses. Therefore, it

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is the intent of SCAG that lead agencies for individual transportation and land use projects that may be eligible for CEQA streamlining incorporate project-level mitigation measures as feasible and appropriate to tier from the PEIR²¹.

On February 19, 2019, South Coast AQMD staff provided comments on the Notice of Preparation (NOP) for the Proposed Project, available at: <http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/february/ALL190123-01.pdf>, and recommended specific air quality mitigation measures for SCAG to include in the Draft PEIR. South Coast AQMD staff incorporates by reference those recommended mitigation measures and requests that SCAG include them in the Final PEIR. Specifically, SCAG should include the following mitigation measures to reduce and accelerate the reduction of on-road mobile source emissions. The recommended mitigation measures are consistent with the Proposed Project’s goal of improving air quality and public health (Goal No. 5)²², provide guidance on the feasibility of mitigation measures with specific performance standards, and support the Draft PEIR’s intended use as the first-tier, programmatic environmental analysis to facilitate CEQA streamlining and tiering by subsequent, project-level environmental analyses.

- Require zero-emissions (ZE) or near-zero emissions (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet CARB’s adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. At a minimum, require that vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export) that meet CARB’s 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks²³. When requiring ZE or NZE on-road haul trucks, SCAG should include analyses to evaluate and identify sufficient power and supportive infrastructure available for ZE/NZE trucks in the Energy and Utilities and Service Systems Sections of the Final PEIR, where appropriate. To monitor and ensure ZE, NZE, or 2010 model year or newer trucks are used, require that operators maintain records of all trucks associated with the operation, and make these records available to SCAG upon request. The records will serve as evidence to prove that each truck called met the minimum 2010 model year engine emission standards. Alternatively, require periodic reporting and provision of written records by operators, and conduct regular inspections of the records to the maximum extent feasible and practicable.
- Encourage construction contractors to apply for South Coast AQMD “SOON” funds. The “SOON” program provides funds to applicable fleets for the purchase of commercially-available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles. More information on this program can be found at South Coast AQMD’s website: <http://www.aqmd.gov/home/programs/business/business-detail?title=off-road-diesel-engines>.

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²¹ *Ibid.* Page 2.0-40

²² *Ibid.* Page 2.0-21.

²³ Based on a review of the California Air Resources Board’s diesel truck regulations, 2010 model year diesel haul trucks should have already been available and can be obtained in a successful manner for the project construction California Air Resources Board. March 2016. Available at: <http://www.truckload.org/tca/files/ccLibraryFiles/Filename/000000003422/California-Clean-Truck-and-Trailer-Update.pdf> (See slide #23).

- Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy²⁴. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the site. To further ensure that drivers understand the vehicle idling requirement, post signs at the site, where appropriate, stating that idling longer than five minutes is not permitted.
- Require at least five percent of all vehicle parking spaces include electric vehicle (EV) charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in. Electrical hookups should be provided at the onsite vehicle stop for to plug in any onboard auxiliary equipment. Electrical panels should be appropriately sized to allow for future expanded use. Include analyses to evaluate and identify sufficient power available for zero emissions trucks and supportive infrastructures (e.g., EV charging stations) in the Energy and Utilities and Service Systems Sections of the Final PEIR, where appropriate.
- The Proposed Project includes areas that are heavily impacted by air pollution. Assembly Bill (AB) 617, which was signed into law in 2017, requires South Coast AQMD to work with community and other stakeholders to identify and address community concerns in disadvantaged communities suffering from disproportionate air pollution impacts generated from sources, such as marine ports, warehouses, railyard facilities, heavy-duty diesel trucks, and oil drilling and production facilities. Through the AB 617 program, each of the designated AB 617 communities and South Coast AQMD staff develop a Community Emissions Reduction Plan (CERP) that identifies air quality priorities and actions to reduce air pollution in the community. In September 2019, the South Coast AQMD's Governing Board approved three CERPs for the AB 617 communities of Wilmington, Carson, and West Long Beach; East Los Angeles, Boyle Heights, and West Commerce; and San Bernardino and Muscoy that were designated in 2018²⁵. In December 2019, two new AB 617 communities in the Southeast Los Angeles and the Eastern Coachella Valley were designated for inclusion in South Coast AQMD's AB 617 Program²⁶. South Coast AQMD staff recommends that SCAG review the CERPs²⁷ to explore whether additional mitigation measures can and should be included as part of PMM-AQ-1 in the Final PEIR for transportation and land use projects that may use the PEIR for CEQA streaming and tiering.

²⁴California Air Resources Board. June 2009. *Written Idling Policy Guidelines*. Accessed at: <https://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf>.

²⁵ South Coast AQMD. AB 617 Community Air Initiatives. Accessed at: <http://www.aqmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134>.

²⁶ *Ibid.*

²⁷ South Coast AQMD. Accessed at: <http://www.aqmd.gov/home/news-events/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-september-6-2019>.

9. Since the Proposed Project includes transportation strategies for rail, seaports, and airports, SCAG should develop and include project-level mitigation measures for off-road mobile sources as part of PMM-AQ-1 in the Final EIR. If the specific details are impractical or infeasible to include, SCAG should develop and include performance standards that the off-road mobile source mitigation measures will achieve (CEQA Guidelines Section 15126.4(a)). Including the mitigation measures and performance standards for off-road mobile sources fulfills SCAG’s legal obligation as SCAG for the Proposed Project to comply with CEQA’s requirements for mitigation measures, serves as a guidance on the feasibility of mitigation measures that can and should be implemented by transportation and land use projects at the region’s seaports and airports, and supports tiering by subsequent, project-level environmental analyses. Specifically, South Coast AQMD staff recommends that the Final PEIR includes the following project-level mitigation measures or other comparable mitigation measures for aircrafts, ground service equipment, cargo handling equipment, locomotives, and ocean-going vessels in PMM-AQ-1.

Aircraft and Ground Service Equipment (GSE)

- Encourage and incentivize aircraft operators to route the cleanest aircraft engines to serve the South Coast Air Basin.
- Consider operational improvements to reduce taxi time and auxiliary power unit usage, where feasible. Additionally, consider single engine taxing, if feasible and as allowed per Federal Aviation Administration guidelines.
- Set goals to achieve a reduction in emissions from aircraft operations over the lifetime of the proposed project.
- Require the use of GSE that can operate on electric battery-power. If electric equipment cannot be obtained, require the use of alternative fuel, the cleanest gasoline equipment, or Tier 4, at a minimum.

Cargo Handling Equipment (CHE)

- Develop specific timelines for transitioning to zero emissions CHE. For example, South Coast AQMD staff recommends a step-down program to require any off-road equipment to be zero emissions first, followed by near-zero emissions, then Tier 4 alternative fuels, and then Tier 4 engine as a floor. The criteria for a step-down program can be based on availability of equipment at the time of purchase and cost of equipment compared to the Tier 4 floor after considering available incentive funds.
- Develop interim performance standards with a minimum amount of CHE replacement each year to ensure adequate progress.

Rail and Locomotives

- Offer incentives to encourage the use of on-dock rail.
- Provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.

Shore Power and Infrastructure

- Use shore side electric power for ships, which may include tugboats and other ocean-going-vessels or develop incentives to gradually ramp up the usage of shore power.

Install the appropriate infrastructure to provide shore power to operate the ships. Electrical hookups should be appropriately sized.

Ocean-Going Vessels

- Maximize participation in the Vessel Speed Reduction Program for all vessels transiting within 40 nautical miles of Point Fermin in the region.
- Encourage the participation in the Green Ship Incentives.

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10. Health Risk Assessment for New Sensitive Land Uses Near Freeways and Other Sources of Air Pollution and Health Risk Reduction Strategies

Notwithstanding the court rulings, South Coast AQMD staff recognizes that the lead agencies that approve CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. Because of South Coast AQMD staff’s concern about the potential public health impacts of siting sensitive populations within close proximity of freeways or other sources of air pollution, South Coast AQMD staff recommends that, prior to approving the project, lead agencies consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary.

Implementation of the Proposed Project would result in development of new transportation projects near existing sensitive receptors or locating new receptors near transportation projects²⁸. To disclose the potential health risks for new sensitive land uses that will be sited within 500 feet of freeways or other sources of air pollution, South Coast AQMD staff recommends a mobile source HRA analysis be performed²⁹. Since the PEIR is intended to serve as the first-tier, programmatic analysis for projects in the region, South Coast AQMD staff recommends that SCAG include a discussion on the mobile source HRA analysis in the Final PEIR³⁰ to provide guidance for subsequent, project-level environmental analyses that will tier from the PEIR. Additionally, South Coast AQMD staff recommends that SCAG include the following health risk reduction strategies in the Final PEIR as guidance for future sensitive land use projects that will be sited in close proximity to freeways or other sources of air pollution. These strategies were included in the South Coast AQMD staff’s comment letter on the NOP for the Proposed Project³¹.

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- Consider high efficiency or enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better for sensitive land use projects that are located within 500 feet of freeways and other sources of air pollution. Enhanced filtration units are capable of reducing exposures. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.

²⁸ Draft PEIR. Page 3.3-76.

²⁹ South Coast AQMD. “Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis.” Accessed at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>.

³⁰ South Coast AQMD has developed the CEQA significance threshold of 10 in one million for cancer risk. When South Coast AQMD acts as SCAG, South Coast AQMD staff conducts a HRA, compares the maximum cancer risk to the threshold of 10 in one million to determine the level of significance for health risk impacts, and identifies mitigation measures if the risk is found to be significant.

³¹South Coast AQMD staff. Accessed at: <http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/february/ALL190123-01.pdf>.

- Enhanced filtration systems have limitations. In a study that South Coast AQMD conducted to investigate filters³², a cost burden is expected to be within the range of \$120 to \$240 per year to replace each filter. The initial start-up cost could substantially increase if an HVAC system needs to be installed. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the residents. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. Moreover, these filters have no ability to filter out any toxic gases from vehicle exhaust. Therefore, the presumed effectiveness and feasibility of any filtration units should be carefully evaluated in more detail and disclosed to prospective residents prior to assuming that they will sufficiently alleviate health risk exposures to toxic air emissions.
- Because of the limitations, South Coast AQMD staff recommends additional details regarding the ongoing, regular monitoring, inspection, and maintenance of filters be provided. To facilitate a good faith effort at full disclosure and provide useful information to future sensitive receptors who will live and/or work in proximity to freeways or other sources of air pollution, the following information should be included, at a minimum, as guidance to future sensitive land use projects in the subsequent, project-level environmental analyses:
 - a) Disclose potential health impacts to prospective sensitive receptors from living in close proximity to freeways or other sources of air pollution and the reduced effectiveness of air filtration systems when windows are open and/or when residents are outdoors (e.g., in the common usable open space areas);
 - b) Identify the responsible implementing and enforcement agency to ensure that enhanced filtration units are installed on-site before a permit of occupancy is issued;
 - c) Identify the responsible implementing and enforcement agency to ensure that enhanced filtration units are inspected and maintained regularly;
 - d) Disclose the potential increase in energy costs for running the HVAC system to prospective residents;
 - e) Provide information to residents on where MERV filters can be purchased;
 - f) Provide recommended schedules (e.g., every year or every six months) for replacing the enhanced filtration units;

³² This study evaluated filters rated MERV 13 or better. Accessed at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf>. Also see 2012 Peer Review Journal article by South Coast AQMD: <http://d7.iqair.com/sites/default/files/pdf/Polidori-et-al-2012.pdf>.

- g) Identify the responsible entity such as future residents themselves, Homeowner’s Association (HOA), or property management for ensuring enhanced filtration units are replaced on time, if appropriate and feasible (if residents should be responsible for the periodic and regular purchase and replacement of the enhanced filtration units, the individual project’s lead agency should include this information in the disclosure form);
- h) Identify, provide, and disclose ongoing cost-sharing strategies, if any, for replacing the enhanced filtration units;
- i) Set criteria for assessing progress in installing and replacing the enhanced filtration units; and
- j) Develop a process for evaluating the effectiveness of the enhanced filtration units.

27

Conclusion

Pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b), South Coast AQMD staff requests that SCAG provide South Coast AQMD staff with written responses to all comments contained herein prior to the certification of the Final PEIR. Issues raised in the comments should be addressed in detail giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines Section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and to the public who are interested in the Proposed Project. Further, when SCAG makes the finding that the recommended revisions to existing air quality mitigation measures and additional new air quality mitigation measures are not feasible, SCAG should describe the specific reasons supported by substantial evidence for rejecting them in the Final PEIR (CEQA Guidelines Section 15091).

28

SN:JW:LS
ALL191210-01
Control Number



REG-3

**VENTURA COUNTY
AIR POLLUTION CONTROL DISTRICT**
Memorandum

TO: Southern California Association of Governments (SCAG)
DATE: January 23, 2020
FROM: Nicole Collazo, Planning Division
SUBJECT: Public Comment for Draft Programmatic Environmental Impact Report (DPEIR)
for the Connect SoCal 2020-2045 RTP/SCS Project (RMA 19-001-1)

The Ventura County Air Pollution Control District (APCD) staff has reviewed the DPEIR for the project referenced above in the areas of Air Quality and Greenhouse Gases for Ventura County. The project is a long-range regional transportation plan that provides a blueprint for the region to achieve coordinated regional land use strategies and transportation investments. The project location extends the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The project Lead Agency for preparation of the DPEIR is SCAG.

1

GENERAL COMMENTS

In accordance with State CEQA Statute Section 21091, APCD submits this memo as commenting agency to the Lead Agency for the project referenced above.

Air Quality

Item 1- Page 3.3-19. It should be clarified that emissions presented in Table 3.3-5 are *motor vehicle emissions*, not stationary or grand total county emission estimates.

2

Item 2- Page 3.3-46. Per the latest CEQA Guidelines Update, item b of the Appendix G Environmental Checklist Form is no longer recommended (Violate any air quality standard or contribute substantially to an existing or projected air quality violation?).

3

Item 3- Page 3.3-56. The statement “The SCCAB and portions are the SSAB are also in nonattainment for PM2.5.” is incorrect. The SCCAB (Ventura Portion) is in attainment for PM2.5, as shown in Table 3.3-4.

4

Greenhouse Gases

Item 1- Page 3.8-49. Under the Ventura County section, a brief summary should be included regarding the County of Ventura’s proposed Climate Action Plan. More information can be found [here](#).

5

Item 2- Table 3.8-4. The County of Ventura is currently developing a Climate Action Plan (CAP) that is being integrated into its General Plan Update 2020-2040. It also contains General Plan Implementation Measures for GHG-reductions and General Plan Policies related to climate change. The County’s CAP has not been adopted yet. A DEIR was publicly released on January 13, 2020. More information can be found [here](#). The table has a CAP as adopted(A). The General Plan Update contains General Plan Implementation Measures for GHG-reductions and General Plan Policies related to climate change, as listed in Table 3.8-4.

6

Item 3- Page 3.8-67. We’d like to note that an even larger fire, the Thomas Fire, occurred in December 2017, burning approximately 281,893 acres and damaging/destroying 1,343 structures.

7

Thank you for the opportunity to comment on the DPEIR. Should you have any questions, you may reach me at 805-645-1426 or via email at nicole@vcapcd.org.

8



SUB-1

January 23, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire, Suite 1700
Los Angeles, California 90017

Subject: Orange County Council of Governments Comments for Connect SoCal 2020 RTP/SCS and PEIR

Transmitted via email

Dear Mr. Ajise:

On behalf of the Orange County Council of Governments (OCCOG), I would like to thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) draft 2020 - 2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (a.k.a. Connect SoCal) and the associated Program Environmental Impact Report (PEIR). The draft 2020 RTP/SCS and PEIR is a monumental effort and the OCCOG recognizes that the documents are critical to the region's ability to receive federal funding for transportation projects, improve mobility, support sustainable development, operate and maintain the transportation system, and meet the region's greenhouse gas emission reduction targets and other air conformity standards.

As we have in past RTP/SCS cycles, the OCCOG Technical Advisory Committee (OCCOG TAC) comprised of agency planning staff convened an ad hoc committee dedicated to the review of the draft 2020 RTP/SCS and PEIR. The ad hoc committee includes representation from the OCCOG; the cities of Anaheim, Irvine, San Clemente, and Yorba Linda; the County of Orange; the Orange County Transportation Authority; the Transportation Corridor Agencies; and the Center for Demographic Research at California State University Fullerton. This committee met four times during the public comment period, and has collectively spent over one hundred hours reviewing the draft Plan and documents, and preparing comments that incorporated additional feedback provided by Orange County jurisdictions and agencies.

1



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The OCCOG TAC review and analysis was discussed by the OCCOG Board at the January 23, 2020 Board of Directors meeting and serves as the basis for OCCOG’s comments.

The following general comments and recommendations are offered by OCCOG on the draft 2020 Connect SoCal Plan and PEIR and all associated appendices. In addition to these policy-level comments, we have more detailed technical comments provided in the matrix that follows as Attachment 1. OCCOG requests that the letter and attachments be included in the public record as our collective comments on the draft 2020 Connect SoCal Plan, PEIR, and associated documents.

1

Policy-Level Comments

1. *Concurrence with the Comments from the Orange County Transportation Authority, Transportation Corridor Agencies, and Center for Demographic Research*

The OCCOG concurs with the comments identified by OCTA in its letter. OCTA has identified policy and technical issues related to the draft 2020 RTP/SCS and PEIR that are of concern to Orange County. These are focused on the regional strategies that go above and beyond the projects submitted by the county transportation commissions (CTCs). Further, we support the technical comments presented by the Transportation Corridor Agencies and the Center for Demographic Research in their letters.

2

2. *High-Quality Transit Corridors (HQTCS) and High-Quality Transit Areas (HQTAs)*

The alignment of SCAG’s Regional Housing Needs Assessment (RHNA) and RTP/SCS documents are required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m). The proposed methodology SCAG submitted to the Department of Housing and Community Development (HCD) indicates that the HQTAs identified in the RTP/SCS using the 2045 planning year are to be used for RHNA purposes of evaluating “transit access.” OCCOG is concerned that the HQTAs as mapped in the draft RTP/SCS are inconsistent with SCAG’s definition for HQTAs. The draft RTP/SCS defines HQTAs as “generally a walkable transit village or corridor, consistent with the adopted RTP/SCS, and is within one half-mile of a well-served transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours.” The draft RTP/SCS further notes that SCAG based the definition on language in SB 375 which defines Major Transit Stops and High-Quality Transit Corridors (HQTCS). HQTCS are “corridor[s] with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.” The definition for HQTCS does not account for walkability.

3



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OCCOG recommends revising the identification of HQTAs to reflect the nuance with certain HQTCs that fail to meet the “walkable corridor” characterization. Namely, HQTC segments operating on freeways are clearly not walkable and should be treated similar to rail transit service (i.e. as a Major Transit Stop).

Recommendations: Correct the mapping of HQTAs to remove freeway-running HQTCs segments and treat applicable stops as Major Transit Stops for those segments operating on a freeway. To the extent practicable, align the definition of HQTAs used in the RTP/SCS and RHNA with the definition used for funding purposes by the Strategic Growth Council in disseminating cap and trade funding to ensure that the SCAG region is able to compete for available funds related to transit-oriented housing.

3

3. Process Concerns

Effective Use of the Technical Working Group OCCOG appreciates the opportunity to participate in ongoing advisory groups that inform the work of SCAG staff as it relates to mandated work products, including the RTP/SCS and PEIR, as well as the Regional Housing Needs Assessment (RHNA). We have repeatedly suggested that SCAG staff review the constitution of and reliance on the Technical Working Group (TWG) comprised of planning staff from SCAG member agencies and experts across the region. OCCOG strongly believes this is an underutilized resource for SCAG and that a stronger partnering and collaborative approach with the TWG would render a much-needed technical peer review for SCAG prior to public release of documents, strengthening the ultimate work products and providing a value-added opportunity for expertise to be offered to SCAG from partner agencies.

Subject Matter Working Groups In the 2020 RTP/SCS process, SCAG created a number of new issue-specific working groups with expanded memberships to reach a greater spectrum of stakeholders. We applaud this proactive step to ensure that more voices are included in the preparation of the Plan, but we are concerned that the manner in which these additional working groups were constituted. Their lack of interaction with the long-standing TWG does not allow for member jurisdictions to be adequately engaged on issues across the spectrum and led to silos of information. Additionally, from a practical standpoint, working group meetings were held only in downtown Los Angeles and often included activities with breakout groups, which limited the ability of remote participants to effectively contribute or hear what is being discussed.

4

Timeline Does Not Allow For Adequate Revision In addition to the structure of working groups, we emphatically recommend the timeline for development of the RTP/SCS be revised in the 2024



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cycle to allow for a more robust review process that would ensure that comments being provided as part of the public comment period have the opportunity to be fully considered by SCAG staff and the policy committees, and stakeholders and jurisdictions have the opportunity to ensure that comments have been addressed prior to asking the Regional Council to adopt the final plan.

Do Not Cut off Regional Council Discussion Finally, OCCOG is concerned that the Regional Council agenda at the March 6, 2020 meeting when the Connect SoCal Plan is to be considered for approval is extremely crowded. It is our understanding that the agenda will also include a controversial item regarding the RHNA, as well as the RTP/SCS and PEIR; both topics require considered debate and are likely to generate discussion among policy makers. Given the manner the November 7, 2019 Regional Council meeting was conducted, with discussion being cut off to accommodate certain Regional Council members who had travel plans, we strongly recommend that SCAG prepare Regional Council members for a lengthy meeting that will allow for a full and robust policy discussion that does not cut off debate or comment.

4

Recommendations: Use the TWG as an actual working group to provide review and counsel to SCAG staff in direct support of the work of SCAG policy committees or even to the policy committees directly. Have liaisons from each subject-matter working group report out at the TWG so TWG members are aware of all ongoing issues and avoid information silos. Begin the RTP/SCS process earlier in the 2024 cycle and release drafts 6 months earlier to ensure that there is adequate time after the initial draft is released for SCAG to fully respond to and incorporate comments, especially as relates to the need for data corrections. Inform Regional Council members ahead of time that the agenda is lengthy and prepare them to allocate additional time should discussion exceed the normally-allotted 2 hours for a meeting.

4. Growth Forecast

OCCOG greatly appreciates the close coordination between SCAG and CDR on behalf of Orange County jurisdictions to ensure the 2020 RTP/SCS growth forecast accurately reflects development agreements; entitlements; current construction and recent construction; open space; and general plan densities.

5

On December 11, 2019, CDR provided SCAG the technical corrections to the draft 2020 RTP/SCS growth forecast dataset on behalf of Orange County jurisdictions so the final RTP/SCS growth forecast would accurately reflect entitlements; development agreements; projects recently completed or under construction; open space; and general plan densities.



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CDR requested a copy of the final draft growth forecast dataset to confirm that all the technical corrections had been included in the final RTP/SCS growth forecast, but was informed on January 14, 2020 that SCAG would not provide a copy of the final draft growth forecast dataset to CDR for review until mid-February 2020. To simplify matters, it is strongly recommended that SCAG utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space and entitlements are properly reflected.

5

We oppose any alternative in the PEIR that does not utilize local input or, at the very least, use the jurisdictional totals provided through the local input process. Any alternative that does not properly reflect all development agreements, open space protections, and recent or ongoing construction should not be utilized as the preferred alternative. We further note that the failure to rely on accurate jurisdictional-level data divorces it from the methodology proposed in the RHNA as required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m) and we believe this must be remedied in the final Connect SoCal Plan.

6

Recommendations: OCCOG cannot yet support the adoption of the Connect SoCal 2020 RTP/SCS growth forecast at the jurisdictional level until we have been assured that the dataset has been corrected. OCCOG does not support the intensified land use scenario as presented in the Connect SoCal Plan, and recommends aligning the RHNA with the RTP/SCS as required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m).

5. *Remain Neutral on Technology*

Throughout the documents, there are specific examples of technology identified. It is not SCAG’s purview to pick winners and losers in technology; the marketplace will determine dominant technologies. Therefore, it should be noted that these are only examples and that future technologies should not be ignored or excluded from meeting the goals of the RTP/SCS. This will allow the document, including mitigation measures, to be more inclusive of and responsive to changing technological advances.

7

Recommendation: The RTP/SCS and PEIR documents should emphasize SCAG’s desire to facilitate and support innovation, but avoid naming specific technologies or providers (e.g., “TNCs” not “Uber and Lyft” or “zero emissions” instead of “electrification”).



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6. *Maintain Unbiased, Objective Tone*

Language throughout the draft Connect SoCal Plan and PEIR and the associated appendices has a tendency to be leading and dramatic in its emphasis of certain key issues, such as active transportation, public health, and land use policy. While these issues are important, using opinion-based and emotionally-charged language is inappropriate in this context.

8

Recommendation: SCAG should remove, wherever applicable, opinion and biased descriptive language that does not reflect the fact-based, data-driven nature of this critical document in favor of a more unbiased, objective tone that embraces the diversity of the region. Examples of overly emphatic language are outlined in Attachment 1.

7. *“Can and Should”*

As indicated in the PEIR, state law provides that it is appropriate to indicate in mitigation measures that they “can and should” be implemented where the authority to implement the measures rest with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies’ regulatory measures. OCCOG recognizes SCAG’s use of the words “can and should” are derived from California Environmental Quality Act (CEQA), at Public Resources Code sections 21081 and 2155.2(b)(5)(B)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of SB 375 upon respective local agencies’ land use authority, OCCOG deems inappropriate any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language “can and should” for mitigation measures addressed to local agencies is overreaching.

9

Recommendation: Change language in all project level mitigation measures to read “~~can and should~~ consider where applicable and feasible.” This change will clarify that the project level mitigation measures are a menu of options.

8. *Duplicative/Existing Regulations*

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g., CEQA review requirements). Under CEQA, it is intended that measures be identified that will mitigate impacts of the project. Mitigation measures should address only those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change

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over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice when compliance is used as a mitigation measure to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is: “Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with existing federal, state, and local laws and regulations.” Similar language is included in some mitigation measures.

10

9. Cities vs. Jurisdiction

Throughout the 2020 RTP/SCS, PEIR, and associated appendices, there are references to “cities”. Since the SCAG region also includes counties, it is recommended that references to “city” or “cities” are changed to “jurisdiction” or “jurisdictions” where appropriate.

11

Recommendation: Change references to “city” or “cities” to “jurisdiction” or “jurisdictions” where appropriate.

10. Spell out Acronyms Prior to Using Abbreviations

There are many different abbreviations used throughout the documents. To avoid confusion and help persons unfamiliar with technical jargon, spelling out the acronyms prior to using them for the first time is common; however, this is often missing in the Connect SoCal documents.

12

Recommendation: Spell out the words in an acronym first before using it. Include a glossary for common acronyms and jargon definitions in the appendices for each technical report.

11. Provide Sources for All Graphics and Tables

When a report of such complexity as the Connect SoCal Plan is produced, it is common for tables, maps, and other graphics to be used or referred to in a manner that could divorce them from the context in which they are presented. For instance, someone may come upon a chart that explains a topic they are researching and could download the image separate and apart from the technical explanation accompanying it in the electronic version of the document. Without source information embedded in the graphic, information can be spread without proper attribution. We understand that it may “look cleaner” to not include a source, date, and citation for data but best practices for technical reports include adding sources to all graphics.

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Recommendation: Make it a SCAG style guide policy to include the source and date of all data used in tables, charts, maps, infographics etc., included in technical reports.

13

12. Fees and Taxes

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, therefore, it should not be assumed that they will be approved.

Recommendations: a) Reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. b) Clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.

14

Conclusion

The OCCOG recognizes the immense efforts SCAG undertook to prepare the Connect SoCal 2020 RTP/SCS and PEIR documents. The Plan is the culmination of a multi-year effort focused on incredibly complex technical work and has important and far-reaching policy impacts for our region. It is precisely because of this importance and complexity that we reiterate our concern about the timing of the release of the documents. Our desire is that the preparation of RTP/SCS documents in future cycles will take into account the need to accommodate adequate review, discussion and revision time for all of the documents. The timeline adopted in the past two cycles makes it challenging to have credible discussion regarding possible changes, because the timeline does not allow for recirculation or full discussion of requested changes. While OCCOG is appreciative of the extended public comment period, there remains concern that only a few weeks remain for SCAG to prepare responses to comments and amend the documents to ensure that the Regional Council may consider the certification of the PEIR and the approval of the draft RTP/SCS by the April 2020 deadline. With that, we look forward to working with SCAG collaboratively to achieve the schedule.

15

We appreciate your consideration of all the comments provided in this letter and its attachments and look forward to your responses. It is a shared goal to have a RTP/SCS adopted that is credible and defensible on all levels. If you have any questions, please do



Orange County Council of Governments

Orange County Council of Governments (OCCOG)
3972 Barranca Parkway, Ste. J127
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not hesitate to contact me or Marnie Primmer, OCCOG Executive Director at (949) 698-2856 or marnie@occog.com.

15

Sincerely,



Stacy Berry, Chair of the Board

Stacy Berry

Chair

Orange County Council of Governments

Cc: OCCOG Member Agencies
OCCOG Board of Directors
OCTA Board of Directors
TCA Board of Directors



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Table 1. 2020 RTP/CONNECT SOCAL COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps All documents	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
2	General Comment	All All documents	Connect SoCal is often referred to as “the Plan”. Capitalize “Plan” consistently throughout all documents.



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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
3	General Comment	All All documents	Review use of "cities". Word "jurisdictions" should often be used to include counties and incorporated cities, not just incorporated cities.
4	General Comments	All All documents	Consider adding "Note: Numbers may not sum to total due to rounding" to applicable tables and graphics.
5	General	RTP	Clearly define what the development pattern is for the SCS.
6	General Comment	All maps growth forecast data	Add: <u>"Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2020 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project's consistency with the 2020 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA)."</u>
7	General Comment	All documents	<p>SCAG staff should provide regular updates to its Transportation Committee and Regional Council regarding the key implementation factors of new transportation user fees, including but not limited to:</p> <ul style="list-style-type: none"> • Technology and associated privacy issues, • Cost of implementation and administrative methods for fee collection/revenue allocation, • Equity concerns and exemptions/credits, as applicable, • Rate structures and associated impacts including evaluation of flat rates, differential pricing by type of vehicle including size and weight, time-of-day, and potentially emissions, including GHG emissions, and • Economic assessment. <p>SCAG staff should also evaluate the impacts of the new transportation user fees on existing local transportation funding mechanisms, including local option sales tax measures, express lanes and toll facilities, and consider how best to integrate the various transportation funding mechanisms. Additionally, any new user fees should include return-to-source criteria to ensure equitable distribution of funds.</p>

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
8	General Comment	All documents	SCAG staff should provide regular updates to its Transportation Committee and Regional Council regarding both the CHSR Project and the Metrolink SCORE Program. Additionally, SCAG staff should assist Metrolink and the CTCs in detailing implementation steps for the SCORE Program, including securing new revenue sources to support operations at the levels assumed in the plan.
9	General Comment	All documents	The 2020-2045 RTP/SCS should recognize that the OCTA Board has not approved conversion from HOV to tolled express lane for SR-55, SR-73, I-605, or north of I-605 on I-405 as depicted in the proposed regional express lanes network. Furthermore, the 2020-2045 RTP/SCS should clearly recognize that the proposed regional express lane network is subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility.
10	General Comment	All documents	The 2020-2045 RTP/SCS should clearly state that the regional strategies suggest improvements beyond the projects submitted by OCTA, and that the implementation of the strategies is subject to availability of new revenue sources and the necessary project development and review processes by the implementing agencies.
11	General Comment	All documents	Maps & other graphics- fonts need to be embedded in PDF to print properly.
12	General Comment	All documents	All tables, charts, graphics need to have sources and the document title
13	General Comment	All documents	The RTP/SCS focuses on housing costs and homelessness throughout the document. While this topic is regionally significant, it is not a requirement of SB 375. The focus of SB 375 is to reduce greenhouse gas emissions from light duty passenger vehicles through coordinated transportation and land use planning. While a co-benefit of this effort may be an increased housing supply, it should not be a focus of the plan. Additionally, addressing homelessness is not a requirement of SB 375 and should not be part of the narrative.
14	General Comment	All documents	The growth forecast should be adopted at no lower than the jurisdictional level

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
15	General comment	All documents	In multiple documents, there is a discussion of variable speed limits, but little information on the ability for them to be enforced. The documents refer to a program in Seattle where variable signs are installed that lower speed limits in advance of congested areas, accidents, bad weather, or other situations where speeds would be reduced. It is unclear if such a program would be enforceable in California at this time, since speed limits are generally set using the 85% rule. At least the technical studies should highlight what or if there are any legislative actions that are needed to implement this concept.
16	Define	In RTP main document	Add the following to the glossary; use definitions from PEIR Households Absolute constraints Single-family Multi-family Constrained/strategic Unconstrained plan
17	Clarification	p. 61	What was the performance of the 2016 RTP? (A summary of the 2016 RTP/SCS Progress provided in the SCS Technical Report (p8) should be provided in the Main document). Where are we as a region and what still needs to be done in order to meet the region’s 2020 goal? There was no initial summary at the beginning of the report, which would have been helpful.
18	Clarification	p. 2, column 2, paragraph 1	“...but also by bringing housing closer to and jobs <u>closer together</u> , making commutes shorter and making it easier to get around without a car.”
19	Correction	p.4, paragraph 3; All documents PEIR ES-4, P2.0-10 PLAN p96, p113	Ensure revenue totals are consistent throughout all documents Expected revenues not consistently reflected in the Plan and PEIR. \$633.9 billion cf. \$638.6 billion

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
20	Core Vision	p. 4, paragraph 1, last sentence.	<p>“We will locate housing, jobs and transit closer together in priority growth areas while preserving natural lands and open spaces.”</p> <p>Goals may conflict in coastal areas, e.g., San Clemente HQTAs. Clarify what the priority will be.</p>
21	Clarification	p. 5; column 2; Connect SoCal Plan Summary; Core Vision	Differentiate the following text with formatting and/or spacing: “Progress and next to advance the Core Vision can be found throughout Chapter 3”. Otherwise, it appears to be part of the Core Vision.
22	Clarification	p. 5; column 2; Connect SoCal Plan Summary; Key Connections	Differentiate the following text with formatting or spacing: “Key connections can be found in Chapter 3”. Otherwise, it appears to be part of the Key Connections.
23	Correction	p. 5; column 2; Connect SoCal Plan Summary; Economic Impact	For direct and indirect jobs, consider displaying in thousands to be more consistent with other figures listed. Also, missing “per year” notation as these are average annual jobs.
24	Clarification	p. 5; column 2; Connect SoCal Plan Summary; Plan Benefits	Verify figures as it does not appear to be consistent with the Performance Measures Technical Report.
25	Clarification	p. 8; right column; Laws that guide the Plan; 1 st bullet	Verify that the reference be to U.S.C., as in United States Code.
26	Clarification	p. 10, column 2, paragraph 5	“The process was informed <u>guided</u> by the Connect SoCal Guidelines and Schedule...”

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
27	Clarification	p. 11, column 1, paragraph 3	<p>“This effort culminated in a comprehensive update to the capital list of projects, which numbers in the thousands. SCAG worked collaboratively with key stakeholders to identify additional regional projects that are intended to address challenges that are regional in nature.”</p> <p>Requested edits:</p> <p>“SCAG worked closely with each of the six county transportation commissions throughout 2018 to update the list of <u>regionally significant major local</u> transportation projects that was established in Connect SoCal’s predecessor, the 2016 RTP/SCS. Each county transportation commission in turn worked with their partner transportation agencies (including <u>applicable</u> transit providers, rail operators, marine port and airport authorities and Caltrans District offices) to finalize a list of county-priority projects to submit to SCAG. This effort culminated in a comprehensive update to the capital list of <u>programs and</u> projects, which numbers in the thousands. SCAG worked collaboratively with key stakeholders to identify additional regional projects <u>initiatives</u> that <u>go beyond county-level commitments and</u> are intended to address challenges that are <u>uniquely</u> regional in nature.”</p>
28	Correction	p.11, column 1, paragraph 4; 5 th line	Replace “New Mobility” with “Mobility Innovations”
29	Define	p. 11, column 1, paragraph 4	<p>“...SCAG’s planning process, and helped develop a vision for the future that promotes regional goals and sustainability while respecting local control.”</p> <p>Define ‘respecting local control’.</p>
30	Clarification	p. 11, column 2, paragraph 2	<p>“SCAG’s 18 CBO partners represented constituents from...”</p> <p>In the document, list the CBOs. Explain how these were chosen and when the workshops were held. If this is listed in the Public Participation & Consultation Technical Report- state this as where to refer to.</p>

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
31		p. 11, column 2, paragraph 3	“Feedback received through our CBO partners was used to identify areas where the plan could be refined to meaningfully reflect the priorities and concerns of these traditionally underserved groups, particularly because they <u>have historically been</u> are disproportionately burdened by the negative outcomes associated with existing and changing land use patterns and transportation policies.”
32	Clarification	p. 12, column 1, paragraph 3	“SCAG used <u>considered</u> input gathered through the CBO engagement and public workshops...”
33	Correction	p. 13; column 2	Economic & <u>Job Creation Analysis</u> Jobs Forecast
34	Clarification	p. 19, column 1, paragraph 2	<p>“In the years ahead, the region may face significant challenges from technology disruption by reducing opportunities for many regional workers who will not be able to close the skills gap to adequately compete for future jobs in that sphere. This has spurred increasingly popular policy discussions of universal basic income (UBI) as a potential solution to offset the negative impacts of job losses due to technology. Since employment is becoming less necessary for gains in overall economic productivity, one UBI model might involve redistributing the revenues from higher taxes on businesses utilizing these new platforms to area residents to ensure a minimum living standard without impacting the incentive to work.”</p> <p>Delete as UBI is not under purview of SCAG or RTP.</p>
35	Clarification	p. 19; column 1; paragraph 3	Note that sales tax measures fund not only future transportation infrastructure but also help to maintain the existing transportation system.

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
36	Clarification	p. 21, column 2, paragraph 1	<p>While the There has been an acceleration in new units since the Great Recession <u>that</u> has been characterized by a higher share of multi-family units, there is concern that this trend may reverse absent policy intervention, as Millennials seek affordable ownership opportunities which that are scarcer in the urban core and in the multi-family market. For example, 51% of all new housing units issued in California for 2018 were for single-family dwellings, making 2018 the first year since 2011 that single-family housing construction outpaced multi-family home production..."</p> <p>Maintain objective and unbiased tone. Please clarify whether the topic is the number of units that were permitted or the number of housing units that were constructed.</p>
37	Clarification	p. 23, column 1, paragraph 2	<p>"Between 2008 and 2016, less than six percent of household growth and less than five percent of employment growth occurred in open space areas."</p> <p>Clarify if development occurred in open space or on underutilized, undeveloped, or vacant land.</p>
38	Transportation System	p. 29, third bullet	<p>"Non-Hispanic Whites disproportionately use automobiles and bicycling modes..."</p> <p>Referring to Table 2.2, 38.9% compared with 36.2%, and 37.6% compared to 37.5% does not seem disproportional.</p> <p>Perhaps the sentence should say "Non-Hispanic Whites and Hispanics disproportionately use automobiles and bicycling modes..."</p>
39	Clarification	p. 32, column 1, paragraph 3	<p>...environmental litigation, community resistance to all kinds of housing medium and high density projects, and lack of sufficient local funding mechanisms."</p> <p>Resistance is not limited to only higher-density housing projects.</p>
40	Clarification	p. 32, column 2; paragraph 2	Add source for the economic benefits of new housing construction.

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
41	Clarification	p. 33, graphic	"...environmental litigation, community resistance to <u>all kinds of housing medium and high density</u> projects, and lack of sufficient local funding mechanisms and lack of sufficient <u>state, federal, and</u> local funding mechanisms."
42	Clarification	p.36	<p>Under "Farm Land Lost and At Risk", SCAG states that 78 percent of Orange County land utilized for farming has been lost since 1984. It should be noted that not all land used for farming was permanent farmland and was not necessarily designated in the zoning code or general plan for farming. Many of these areas are zoned for a different use and land owners farm the land for income until the development applications are approved and construction permits are issued. Additionally, farming was one of the few permitted uses allowed in areas designated flight hazard zones. For example, a great deal of the City of Irvine privately-owned land surrounding the former Marine Air Station El Toro was utilized for farming because no other uses were permitted. Once El Toro was closed, the land was rezoned to permit residential, but continued to be used as farmland for many years.</p> <p>Add note to table and section that "not all land used for farming was permanent farmland and was not necessarily designated in the zoning code or general plan for farming."</p>
43	Clarification	p. 39, graphic	<p>"If a person lives in housing adjacent to a freeway, they may be more likely to develop asthma."</p> <p>What about high capacity arterials like HQTAs or railines? Why are these not included?</p>
44	Clarification	p. 41, column 1, paragraph 2	Provide reference to Congestion Management Technical Report.
45	Clarification	p. 46, column 2, paragraph 2	"This plan is not designed to dictate local actions and policies, but rather to lay out a path to achieving regional goals <u>set by the Regional Council.</u> "
46		p. 58 column 1, paragraph 2	RAMP- How would this work? Would there be any endowment funds required? Who can/cannot participate?
47	Clarification	p. 48, column 2, paragraph 3	"...Connect SoCal can reach the <u>regional</u> target of reducing greenhouse gases..."

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
48	Clarification	p. 49, column 1, bullet 2	“Focus on a <u>regional</u> jobs/housing balance to reduce commute times and distances and ...”
49	Sustainability Communities Strategies	p. 49, column 2, fifth bullet	“Support statewide legislation that reduces barriers to new construction...” Considering coupling this with or replacing this with “Increase statewide funding to construct affordable housing”
50	Clarification	p. 50, column 1, paragraph 1	“Although center-focused placemaking can be applied in a wide range of settings, priority must be placed, however, on urban and suburban infill, in existing/planned service areas, and within the planning boundary outside of an agency’s legal boundary, known as “Spheres of Influence,” where applicable and feasible.”
51	Clarification	p. 50, column 2, paragraph 4	“Employment growth and residential growth are prioritized in Job Centers in order to leverage existing density and infrastructure. <u>However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth.</u> ”
52	Green Region	p. 55, column 1, first sentence	“... in areas subject to future two-foot sea level rise.” Cite the source used. Indicate where map is showing sea level rise and HQTAs.
53	Clarification	p. 56, paragraph 1	“The Regional Housing Supportive Infrastructure strategy will help make it quicker for <u>developers</u> local jurisdictions to produce critically-needed housing.” Local jurisdictions don’t build housing.
54	Clarification	p. 59; column 1; paragraph 1; last sentence	It would be appropriate to include investment in regionally significant local streets and roads here too.

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
55	Correction	p. 59; column 2; paragraph 3	"The Plan plan includes \$68 billion towards preservation, operation and resiliency needs of the state highway system, and \$47.5 \$20.88 billion towards preservation, operation and resiliency needs of the <u>regionally significant</u> local <u>streets and</u> roads.
56		p. 60, column 2, paragraph 3 p. 62	Go Zones- specify that Go Zones should be up to jurisdictions and local CTCs to establish. Not opposed to Go Zones in concept.
57	Clarification	General Comment, p.61, 102	"A mileage-based system." For all references to a mileage-based user fee, specify that this is intended by SCAG to replace the gas tax, not be an additional fee.
58	Clarification	p. 64, column 1, paragraph 1	"Connect SoCal commit identified \$7.3 billion through 2045 to implement TDM strategies throughout the region."
59	Clarification	p.64, column 1, paragraph 3	Revised to clarify that TSM is more than ITS.
60	Active Transportation	p. 71, column 1, paragraph 3, last sentence	Communities are excited about changing our streets. We need support in the form of funding to do so.
61	Core Vision Complete Streets	p. 71, column 2, paragraph 4	"Planning for 2045...grant funds for regionally significant projects." Planning for 2045, especially for the Core Vision of Complete Streets, should include funding for non-motorized projects, such as widened sidewalks and bike lanes to close gaps in the pedestrian and bicycle regional networks.
62	Correction	p. 73; column 2; paragraph 2	"auxiliary lanes, general purpose lanes, carpool lanes, toll lanes and Express/HOT" Toll lanes are not mentioned on either table or exhibit referenced.
63	Correction	p. 74, column; paragraph 1	"believes merits future consideration for <u>potential</u> inclusion in the financially constrained"
64	Correction	p.74; column 2	"the <u>I</u> -105 in Los Angeles County..."

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
65	Correction	P. 84	Under the <i>Right Tool for the Job</i> , first paragraph. The rise of shared mobility and mobility as a service will allow residents <u>to</u> choose how to travel...
66	Clarification	p. 83, column 1, paragraph 3	“Project level mitigation measures have been identified that “can and should <u>where applicable and feasible</u> ” be undertaken by lead agencies that implement transportation projects...”
67	Clarification	Exhibit 3.4, Exhibit 3.6	Verify the location of job centers on these figures as it does not appear to match.
68	Growth Constraints	Exhibit 3.4, Exhibit 3.5	Note states that areas precluded from growth include 2 ft Sea Level Rise areas. However, SLR is does not appear to be indicated on Exhibit 3.4. SLR will likely be a small, hard-to-see line on the map. Please include the SLR areas in a technical report.
69	Growth Constraints	Exhibit 3.4, Exhibit 3.5	Growth constraints should include historic resources listed on (at least) state and federal lists.
70	Revenue Sources	p. 107, Table 4.4 first row	Local jurisdictions would be responsible for implementing parking pricing in major job centers to support \$77.8 billion in revenue for the RTP/SCS. It seems wrong to assume that local jurisdictions will bring in revenue by implementing parking pricing in the next 15 years given that: <ul style="list-style-type: none"> • Job centers have existing tenants and local jurisdictions do not want to encourage the tenants to leave by imposing additional costs, and • There is little to no infrastructure to support alternative modes of transportation.
71	Revenue Sources	p. 107, Table 4.4 second row	Local jurisdictions would be responsible for EIFD formation and TIF to support \$3 billion in revenue for the RTP/SCS. It seems wrong to assume that local jurisdictions will bring in revenue by forming EIFDs.
72	Correction	p. 108, Table 4.5.1 first row	“Locally imposed <u>½ percent</u> sales tax in four counties (Imperial, Orange, Riverside, and San Bernardino). Permanent 1 percent (combination of two <u>½ percent</u> sales taxes)...”
73	Correction	p. 108, Table 4.5.1 second row	“The Local Transportation Fund (LTF) is derived from a <u>¼ percent</u> sales tax on ...”
74	Correction	p. 108, Table 4.5.1 fourth row	Suggest deleting “(in core revenue forecast)” since a toll revenue source is not included in the reasonable available sources.

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
75	Revenue Sources	P. 108, Table 4.5 fifth row	Does the assumption of \$2.5 billion in revenue from impact fees account for projects that are exempt from impact fees? One example is ADUs of less than 750 sf are exempt from impact fees.
76	Clarification	p. 111, Table 4.5.4 second row	Indicate if the mileage-based user fee would be inflation adjusted.
77	Expenditures	p. 114, Table 4.6.2 row 9	Active Transportation expenditures total \$17.7. Note with * says total is \$22.5 billion. This asterisk should have been placed with “Regionally Significant Local Streets and Roads *”
78	Clarification	p. 118, column 1, paragraph 3	“...that comprise the SCAG region. <u>With the Plan, in this scenario,</u> trips to work, schools and other...”
79	Clarification	p. 118, column 2, bullet 7	“... Conservation of open space, agricultural lands, and other rural land uses may be achieved by focusing new residential and commercial development in higher density areas that are already equipped with the requisite urban infrastructure. <u>However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth.</u> ”
80	Clarification	p. 120, bullet 2	Consider a closer linkage to the definition of Baseline in the glossary. For instance, a project programmed in the 2019 FTIP should not automatically be considered as Baseline.
81	Clarification	p.121	Replace “Trend” with “Baseline”.
82	Clarification	p.122	Note is misleading as it is different than what have been defined elsewhere—particularly in the Glossary.
83	Clarification	p. 123, last 2 trends	Correct trend arrows in the last two rows.
84	Clarification	p.124, Table 5.1	For successful Mobility & Accessibility outcomes, do we need to measure the miles and/or percent of gap closures for non-motorized travel such as SR2S and bike routes/lanes?

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
85	Clarification	p.124, Table 5.1	For Travel time distribution by mode, the Definition should include “(work trips)” because the 2045 Performance Results show the % for only work trips. Also, the % for HOV trips do not match the % shown in the Performance Measures Technical Report.
86	Clarification	p. 125, Table 5.1	Connect SoCal 2045 Performance Results for fatality rate and serious injury rate appear to be reversed.
87	Clarification	p. 125, Table 5.1	For the Baseline and Connect SoCal measurements of Cardiovascular disease rate, the table should show percentages in tenths, just like the other measurements, and the trend should show no change.
88	Clarification	p. 125, Table 5.1	Connect SoCal 2045 Performance Results for active transportation mode share for walk share (all trips) and bike share (all trips) are not consistent with the Performance Measures Technical Report and the Active Transportation Technical Report.
89	Clarification	p. 126, Table 5.1	Asterisked figures are associated with GHG emissions, which are not criteria air pollutants. Suggest moving asterisks to Baseline criteria pollutant emissions.
90	Clarification	p. 126, Table 5.1	For the Economic Opportunity outcome group, why does the objective state and improvement over baseline when baseline data is not available? How can you measure improvement without a baseline?
91	Clarification	p. 127, Table 5.1	Investment Effectiveness should be measured by investment per mode. What is the investment benefit/cost ratio for goods movement? What is the investment benefit/cost ratio for transit? What is the investment benefit/cost ratio for passenger rail? What is the investment benefit/cost ratio for active transportation?
92	Clarification	p. 131, Figure 5.3	Title appears to be missing “, Thousands”.
93	Clarification	p. 132, column 1, paragraph 1	Verify listed values for mean commute time as they appear to be inconsistent with those shown in Public Health Technical Report.
94	Clarification	p. 133, column 2, paragraph 2	The indicated five percent improvement is inconsistent with values shown elsewhere, including the Public Health Technical Report.
95	Clarification	p. 134, column 1, paragraph 3	Reductions in health care expenditures is not in itself an economic opportunity—the potential economic activity associated with expenditure of the health cost savings on other things should be considered here.

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
96	Clarification	p. 135, column 1, paragraph 3	Suggest replacing "\$312 billion" with "\$316 billion" Suggest removing the reference to Transportation Safety and Security Technical Report.
97	Clarification	p. 135, column 2, paragraph 2	"Since most new development would be directed into areas where urban infrastructure already exists, there will not be as much need to extend or build new local roads, water and sewer systems and parks. <u>However, it is recognized that infrastructure capacity, services, and other amenities may need to be evaluated to assess the potential for increasing density to determine if the existing infrastructure, services, and amenities would need to be expanded to accommodate additional growth.</u> "
98	Clarification	p. 136, Table 5.3, row 1	Suggest including a note: Capital, operations and maintenance costs referenced here include costs beyond those for transportation (e.g., sewer and water operations and maintenance costs) as identified in Chapter 4.
99	Clarification	p. 141, column 2, paragraph 2	Accessibility to Parks & Schools: "In support of the Connect SoCal EJ assessment, analysis was conducted to evaluate accessibility to the San Gabriel National Monument. SCAG's accessibility analysis seeks to determine how the Plan improves residents' ability to access parks within a designated travel time and distance. See Environmental Justice Technical Report for detailed analysis on accessibility." Some state parks are served by transit e.g., Crystal Cove. Why is the example LA-centric? Why only San Gabriel Monument? Reword to suggested above.
100	Clarification	p.141, column 2, paragraph 2	"Accessibility parks and schools"- what happens when RHNA or numbers are so large you have to rezone open space? Local open space isn't protected or valid excuse accepted by HCD as land/reason for not rezoning

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
101	Clarification/ Correction	p. 142, column 2, item 9	Verify centerline miles and lane miles as figure appear to be inconsistent with Highways and Arterials Technical Report, Environmental Justice Technical Report and Transportation Conformity Technical Report. "It also includes one of the country's most extensive HOV systems and a growing network of toll lanes, including HOT lanes."
102	Clarification	p. 143, column 1, item 15	"Sales and gasoline taxes, which are <u>currently</u> the primary sources of funding for the region's transportation system, were evaluated for the purposes of this analysis."
103	Clarification	p. 143, column 2, item 16	"The strategies that public agencies pursue to invest in transportation systems presents a <u>potential</u> substantial impact on EJ."
104	Clarification	p. 143, column 2, item 18	This should be updated to also account for the local road charge program.
105	Clarification	p. 144, paragraph 4, first sentence.	"The overall objective of Connect SoCal is to provide a means to transform the SCAG region in accordance with the vision provided by our constituent communities and jurisdictions." Connect SoCal is not in accordance with the vision of all of the constituent jurisdictions . . . Who are the 'constituent communities'?
106	Clarification	p. 147, Table 5.4, last row	This should be updated to also account for the local road charge program.
107	Clarification	p. 151, column 1, paragraph 3	"These funds will be used to develop a Regional Housing Strategy Framework and provide planning grants and services to jurisdictions to implement their 6th cycle RHNA allocation which is supportive of Connect SoCal goals and policies." What is the Regional Housing Strategy Framework? How much money will be provided to jurisdictions? Will the funding distribution methodology be consistent with the RHNA distribution methodology?

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
108	Correction	p. 163, glossary	<p>“Measure A Revenues generated from Riverside County’s local half-percent sales tax.</p> <p>Measure D Revenues generated from Imperial County’s local half-percent sales tax.</p> <p>Measure I Revenues generated from San Bernardino County’s local half-percent sales tax.</p> <p>Measure M Revenues generated from Orange County’s local half-percent sales tax. Also refers to Los Angeles County’s local half percent sales tax which was authorized in 2018.</p> <p>Measure R Revenues generated from Los Angeles County’s local half-percent sales tax. ...”</p>
109	Correction	p. 166, glossary	<p>“Proposition A Revenues generated from Los Angeles County’s local half-percent sales tax. ...</p> <p>Proposition C Revenues generated from Los Angeles County’s local half-percent sales tax. ...”</p>
110	Clarification	p. 173, glossary	<p>“VMT Vehicle Miles Traveled – On highways , a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by the number of vehicles times the miles traveled in a given area or on a given highway during the time period. In transit, the number of vehicle miles operated on a given route, or line, or network during a specified time period.”</p> <p>Indicate if VMT is only for highways or if streets, freeways, and toll road miles travelled are also included.</p>
111	Correction	p. 177,	Economic & <u>Job Creation Analysis</u> Jobs Forecast

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Table 2. PEIR COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	All mitigation measures	Mitigation measures should not be prescriptive but be deferred to the applicable resource/trustee agency involved (e.g. US Fish and Wildlife Service or California Department of Fish and Wildlife for Biological Resources; US Army Corps of Engineers or Regional Water Quality Control Boards for water Quality, AQMD for Air Quality etc.)

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
2	Correction	ES-4	Second bullet. Details a regional transportation investment given \$633.9 638.6 billion in expected revenues from federal, state, regional and local sources over the next 25 years; and ...	19
3	Clarification	ES-10, bullet 3	“Establish a mileage-based user fee <u>to replace the gas tax and to generate</u> a funding source for aging infrastructure and construction of other travel options”	20
4	Clarification	ES-11	Highway and Arterial Network. Toll roads such as those operated by the TCA in Orange County are distinct from toll lanes, express or HOT lanes. Suggest modifying the following sentence to clarify this distinction. “Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll <u>roads, toll</u> lanes and Express/HOT lanes.”	21
5	Clarification	p.2.0-23-25	AIR QUALITY MITIGATION MEASURES. Defer to AQMDs or local jurisdictions’ planning/zoning regs.	22
6	Clarification	p.2.0-20	PMM AES-3 (b). <i>Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m.</i> This is too prescriptive and could conflict with regulations/ordinances already in place at the local jurisdiction level. Projects should be required to comply with applicable local jurisdictions’ codes, planning and/zoning ordinances that cover light pollution (e.g., dark skies ordinances etc).	23
7	Clarification	ES-5 Table Air Quality Impact AQ-1 (pages 2.0-23)	“Less than Significant” impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.	24
8	Clarification	p.2.0-24	PMM-AQ-1. Reference should be made to AQMD regs e.g., rule 403 Fugitive Dust.	25
9	Clarification	p.2.0-25	PMM-AQ-1 q). Ref to AQMD regs regarding sensitive receptors	26
10	Clarification	p.2.0-25	BIOLOGICAL RESOURCES MITIGATION MEASURES. Reference should be made to permitting coordination/measures as will be negotiated with the resource agencies. Refer also to local regs.	27
11	Clarification	ES-5 Table Impact AQ-4	“Less than Significant” impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to	28



SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		(pages 2.0-25)	include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.
12	Clarification	Table ES-5 p. 2.0-26	“PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
13	Clarification	Table ES-5 p. 2.0-27	“PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
14	Clarification	Table ES-5 p. 2.0-29	“PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
15	Clarification	p.2.0-29	PMM-BIO 3 d). In some instances, Nationwide Permits have been revoked and replaced with County Special Area Management Plans (SAMPs), which have letters of permission procedures that should be referenced instead, if applicable.
16	Clarification	Table ES-5 p. 2.0-30	“PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
17	Clarification	p. 2.0-31	Congestion Pricing. Connect SoCal identified three congestion pricing strategies, two of which were incorporated into the 2012 and 2016 RTP/SCS. (Which two and how did they perform? It would be helpful to know if the measures previously implemented were effective or if new measures/adjustments are required)

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
18	Clarification	Table ES-5 p. 2.0-32	"PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency."
19	Clarification	Table ES-5 p. 2.0-33	"PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
20	Clarification	Table ES-5 p. 2.0-34	"PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
21	Clarification	p. 2.0-35	Highway and Arterial Network. Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll roads , toll lanes and Express/HOT lanes.
22	Clarification	Table ES-5 p. 2.0-36	"PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
23	Clarification	Table ES-5 p. 2.0-37	"PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
24	Clarification	ES-5 Table Geology and Soils	"Less than Significant" impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		Impact GEO-1 (pages 2.0-37)	include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.
25	Clarification	ES-5 Table Geology and Soils Impact GEO-3 (pages 2.0-38)	“Less than Significant” impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.
26	Clarification	ES-5 Table Geology and Soils Impact GEO-4 (pages 2.0-38)	“Less than Significant” impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.
27	Clarification	ES-5 Table Geology and Soils Impact GEO-5 (pages 2.0-38)	“Less than Significant” impact conclusions should be re-evaluated to substantiate the conclusion of less than significant with no mitigation measures needed and/or consider changing the impact conclusion to include mitigation measures and include language to note that project specific measures would be included as applicable and feasible.
28	Clarification	Table ES-5 p. 2.0-39	“PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
29	Clarification	Table ES-5 p. 2.0-39	“PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”
30	Clarification	Table ES-5	“PMM-NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		p. 2.0-57	can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
31	Clarification	Table ES-5 p. 2.0-64	"PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
32	Clarification	Table ES-5 p. 2.0-66	"PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:"
33	Clarification	1.0-4, paragraph 3	"... Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees..." All these subcommittees do not report directly to the policy/standing committees. Please clarify the hierarchy of which committees/groups report to whom, e.g., working groups to staff, RHNA subcommittee to CEHD, etc., by listing all the committees and who they report to.
34	Clarification	3.11-12, paragraph 1	"City and county general plans must be consistent with each other." This statement is not accurate. Delete.
35	Clarification	3.11-32, paragraph 1	"Regional Housing Needs Assessment ...The California Department of Housing and Community Development (HCD), in consultation with each council of governments, determines each region's existing and projected housing need. ³⁵ HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			<p>region’s housing need.³⁶ HCD’s determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.³⁷ <u>SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.”</u></p>
36	Clarification	3.11-32, paragraph 4	<p>“The purpose of the housing element is to identify the community’s housing needs, <u>as determined by the RHNA process</u>, state the community’s goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs.”</p>
37	Clarification	3.11-32, paragraph 4 & 3.14-14, paragraph 2 3.11-39, paragraph 2	<p>“In addition, the housing element defines the related policies and programs that the community will implement in order to achieve the stated goals and objectives. This would be accomplished through the allocation of regional housing needs consistent with the Plan.”</p> <p>“...To address this, the analysis in the PEIR covers overall impacts of transportation projects and land use strategies described in the Plan and evaluates how conditions in 2045 under the Plan would differ from existing conditions...”</p> <p>“²³Connect SoCal and this PEIR address reasonably foreseeable households in the SCAG region...”</p>

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
		3.14-16, footnote 23 3.14-22, paragraph 4	<p>“Generally, most jurisdictions have started planning for this increase in density in urban areas and the Plan builds on local input (and is not intended to result in re-designation of areas where such re- designation is not approved by the local agency). However, there remains the potential for the Plan’s strategies to influence population growth in areas where local general plans have not yet been updated to reflect such growth. Therefore, implementation of the Plan would have the potential to induce unplanned growth in some areas of the region resulting in a significant impact, requiring mitigation measures.”</p> <p>In this context, does ‘allocation’ refer to the jurisdictional number calculated through the disaggregation of the regional total to the jurisdiction or the geographic distribution and calculations of the RHNA methodology that were used to disaggregate the regional total?</p> <p>Does a jurisdiction have to site and zone for housing consistent with the Plan?</p> <p>If the update to the housing element includes a RHNA allocation that is reflective of both existing and projected housing need, how can the allocation of regional housing needs be consistent with the RTP/SCS if the jurisdiction’s RHNA number is significantly different than its growth forecast total?</p> <p>Jurisdictions are required to zone for the amount of housing units prescribed to them through the RHNA process. A large portion of the 6th cycle allocation is due to existing need, which comes from pent-up demand from existing overcrowding and cost burdenness. By zoning for the RHNA allocations and developers building those units, those units would become occupied (households) because new housing would be available at required income ranges and would therefore be attainable. Furthermore, it is reasonable that these housing units will be occupied, creating ‘households’, throughout the SCAG region. Since these new housing units, which would ultimately become households that coincide with a healthy market vacancy rate prescribed by the state, were distributed and not constrained to jurisdictional-level forecasts, the RHNA</p>

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			In fact, the housing growth (both from projected and existing need) should occur based on the RHNA allocation plan.
39	Clarification	3.11-33, paragraph 3	“...If the total regional population forecasted and used in the regional transportation plan is within a range of three 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination...If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. <u>Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.</u> ”
40	Clarification	3.14-13, paragraph 3	“Regional Housing Needs Assessment ... HCD’s determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.15 <u>SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.</u> ”
41	Clarification	3.14-15 (paragraph 2)	“Per SB 375, the projected needs portion of the 6 th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.”

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			Question – Will the existing needs portion of the 6 th Cycle RHNA be consistent with the Connect SoCal for the comparable period? Since the RHNA is supposed to address both existing and projected housing need, what growth pattern is assumed in Connect SoCal to address the existing need?
42	Clarification	3.14-16 (paragraph 1)	<p>“The SCS must accommodate the projected need portion of the 6th cycle RHNA.”</p> <p>Government Code Section 65080(b)(2)(B) states that “the SCS shall...(ii) identify areas within the region sufficient to house all the population of the region, including all segments of the population, over the course of the planning period of the regional transportation plan...[and] (iii) identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region...[and] (iv) identify a transportation network to service the transportation need of the region...[and] (vii) set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks...”</p> <p>“While the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process.”</p> <p><i>This is an extremely vague analysis for an estimated 900,000 housing units of existing need. Given that RHNA is required to be consistent with the SCS, the PEIR should provide a more robust analysis of the growth forecast that complies with the Government Code requirements for the SCS.</i></p>
43	Clarification	Page 3.11-32, First Paragraph, Last Sentence	<p>“HCD’s determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.”</p> <p>Correction – HCD’s determination is supposed to be based on population projected and produced by DOF and regional population forecasts;</p>

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
			however, HCD has chosen to ignore Government Code Section 65584.01(a), which requires that if the COG’s growth forecasts are within 1.5% of the DOF growth forecasts, then the COG’s forecasts shall be used for RHNA purposes. Instead HCD has chosen to use the DOF growth forecasts.
44	Clarification	3.11-33 (paragraph 2), Last Sentence	<p>“The RHNA does not necessarily encourage or promote growth...” This sentence is false. Government Code Section 65584(a)(2) states, “It is the intent of the Legislature that cities, counties, and cities and counties should undertake all necessary actions to encourage, promote, and facilitate the development of housing to accommodate the entire regional housing need, and reasonable actions should be taken by local and regional governments to ensure that future housing production meets, at a minimum, the regional housing need established for planning purposes.” Furthermore, one of the objectives of RHNA is “promoting infill development...the encouragement of efficient development patterns...” (see Government Code Section 65584(d)(2).</p> <p>In fact, the housing growth (both from projected and existing need) should occur based on the RHNA allocation plan.</p>
45	Clarification	3.11-33 (paragraph 4)	Government Code Section 65584.01(C) and (H) define overcrowding and cost-burdened households. It is important to note that the law allows for these rates to be based on “comparable housing markets...as determined by the COG.” Although SCAG has identified different rates, HCD has ignored the law that allows SCAG to determine these rates based on comparable housing markets.
46	Clarification	3.11-33 (last paragraph, last sentence)	<p>“Per SB 375, the projected needs portion of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period.”</p> <p>Question – Will the existing needs portion of the 6th Cycle RHNA be consistent with the Connect SoCal for the comparable period? Since the RHNA is supposed to address both existing and projected housing need, what growth pattern is assumed in Connect SoCal to address the existing need?</p>

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#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
47	Clarification	p. 3-20-6-7	The approx. 38,000-acre Orange County Central-Coastal Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan should be mentioned here.

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Table 3. ACTIVE TRANSPORTATION TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Correction	p. 42; Figure 27	Suggest replicating figure from cited source as this graphic does not convey the message as effectively.
2	Correction	p. 44; column 2; current bikeway network; 1st sentence	This is somewhat misleading as both Los Angeles and Riverside counties are substantially larger than Orange County. As a share of countywide lane miles, Ventura and Orange counties have more bikeways.
3	Correction	p. 49; column 1; Cities and counties; 2nd paragraph; 1st sentence	This is not an accurate statement as the funding in Orange County is significantly below the share of the region's population.
4	Clarification	p. 57; column 2; Table 8; 2045 Connect SoCal average commute time walking	Verify figure as it does not appear to consistent with the Public Health Technical Report.
5	Clarification	p. 58; column 2; Table 9	Verify figures for both Baseline and Plan as they do not appear to be consistent with the main book and Performance Measures Technical Report.
6	Clarification	p. 63; column 1; Technology and micro-mobility strategies; 1st bullet	Is this an example or the regional standard?

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Correction	p. 65; Table 10; Total	Check the math or include note that it does not sum to the total due to rounding.
8	Clarification	p. 67; column 1; Actions for technology and micro-mobility; 1st bullet	Why only Caltrans?
9	Correction	p. 68; column 1; Strategic Plan; 1st paragraph	Suggested edit: Connect SoCal contains approximately \$22.5 billion (in nominal dollars) in investments in active transportation between 2020 and 2045. However, this represents only a portion of the need, based upon reasonably available funding.
10	Clarification	p. 68; column 1; Strategic Plan; 3rd paragraph; 1st sentence	Clarify if this is in addition to the \$22.5 billion included in the constrained plan.
11	Clarification	p. 68; column 2; Table 11 walking and bicycling mode share	Verify figures for both Baseline and Plan as they do not appear to be consistent with the main book, Public Health Technical Report, and Performance Measures Technical Report.
12	Correction	p. 69; column 1; Strategic Plan; 1st paragraph; last sentence	Suggest revising this statement so that it is clear that the Plan is financially constrained.

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Table 4. AVIATION AND AIRPORT GROUND ACCESS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	Entire Section	The narrative goes back and forth between Connect SoCal and RTP/SCS. It is okay to reference both in the opening statements of the section, but one should be used uniformly throughout the document to avoid confusion.



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	General Comment	Entire Section	The narrative interchangeably references John Wayne Airport as 1) John Wayne Airport, 2) JWA, and 3) Santa Ana throughout the document. While the FAA designation for the airport is SNA, all references to the airport as Santa Ana should be removed. Furthermore, JWA is not the FAA designation for the airport, so it too should be removed. When referencing the airport and for consistency throughout the document it should be referred to as John Wayne Airport.
3	General Comment	Entire Section	There should be acknowledgement of the FAA airport designations at the beginning of the section, so that stakeholders understand the FAA designation is not always consistent with the name of the airport. For example: John Wayne Airport is not JWA, but is SNA.
4	Correction	7	Ontario International Airport has a FAA designation of ONT not LAX
5	Correction	p. 8; left column; Ontario International Airport (LAX); 2 nd paragraph; last sentence	Missing period after "7 MAP" and missing sentences after "As for air cargo, Ontario"...
6	General Comment/Clarification	Entire Section	The base year identified for all aviation data is 2017, while the base year identified for much, if not all of Connect SoCal is 2016. Provide clarification as to why the base year is different for this section.
7	Correction	10	Aer Lingus, Aeroflot, Aeromexico, Aeromexico Connect, Air Canada, Air Canada (duplicate), Air Canada Rouge, and Air China do not have destinations listed. This appears to be a copy and paste error. The chart should be updated to be consistent with the remainder of the table.
8	Correction	10	Air Canada is duplicated in the table.
9	Correction	23	Change the date to 2045 in the title. Connect SoCal is 2020-2045 not 2020-2040.
10	Correction	23	Under the title "SCAG REGION AIR CARGO FORECASTS" correct the date to 2045. Connect SoCal covers 2020-2045 not 2020-2040.

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Table 5. CONGESTION MANAGEMENT TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All pages	Spell out all acronyms throughout the document (e.g. MAP-21, FAST act, MPO, SBCTA)
2	Clarification	P2, column 2, Figure 1	Explain why a mobility pyramid is used to display the strategies in improving and optimizing the transportation system. Is one component more important than the other, starting from top to bottom or bottom to top? Do they build on one another? Consider just using a bullet point list.
3	Correction	p. 6; column 1; Roles and responsibilities of partner agencies; 1 st paragraph	Replace "SGAG" with "SCAG"
4	Correction	P11, column 2, last paragraph	suggest revising the sentence to read, EXHIBIT FIGURE 2 and TABLE 2 depicts the vehicle hours of delay....
5	Clarification	P11, column 2, last paragraph	suggest revising the sentence to read, However, yearly data since then shows that congestion has been increasing year over year since then-2011 , and this includes all the three Caltrans districts <u>in the SCAG region. (Note- There was an increase in congestion from 2009-2010, a drop from 2010 to 2011, then an increase thereafter through 2017)</u>
6	Correction Correction	P13, column 2, paragraph 1	EXHIBIT FIGURE 3 depicts lost lane-miles... <ul style="list-style-type: none"> Revise the second sentence to show the following: "In 2016, the SCAG region lost an equivalent of 922 998.79 or 999..." Figure 3 shows a total of 998.79.
7	General Comment	P14	Suggest adding INTRO TEXT to EXHIBIT 1 and TABLE 3 -Top 100 Bottlenecks..

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
8	Clarification	p. 22; left column; Regional and county congestion trends	Add references to Exhibit 1 and Table 3
9	Clarification	P23, column 1, paragraph 2	Add reference to FIGURE 4 at the end of the first sentence.
10	Clarification	P23	The non-recurrent congestion discussion and Figure 4 (recurrent/non-recurrent percent share) is inconsistent with the Highway non-recurrent delay discussion and Figure 11 on p37 of the Performance Measures Technical Report . Please reconcile.
11	Clarification	P24, column 2, Paragraph 2	In the second sentence identify a list of stakeholders that were contacted.
12	Correction	p. 23; column 1; Non-recurrent congestion; 2 nd paragraph; 5 th sentence	Reconsider this statement. Orange County is pretty much built-out but experiences much more non-recurrent congestion than recurrent congestion according to Figure 4.
13	Correction	P29, column 1, last paragraph	The TMCs are staffed 24/7 by CHP and Caltrans personnel, and monitor and respond to changes in traffic conditions, including both planned events and emergencies.
14	Correction	p. 31; column 2; SCAG's role; 3 rd paragraph; 1 st sentence	Suggested edit: One county that is making particularly bold moves in the ITS realm is Los Angeles, which has recently debuted its "Connect-IT" project and accompanying website that is a warehouse of sorts for all ITS projects in the Los Angeles <u>County</u> region.
15	Define	P33 ff., TABLE 4	Timeframe, Short and Long -term need to be defined

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SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
16	Clarification	P39, Column 2, paragraph 2.	Revise bullet point one to say "...supportive policies for shared ride services, such as Uber and Lyft Transportation Network Companies (TNCs)" Add a sentence suggesting that TNC's can contribute to SOV trips when TNC vehicles are driving around looking for customers.
17	Correction	p. 41; column 1; Ridesharing	Replace "ExpressLane" with "express lane" "ExpressLane" is a Metro branding of the generic express lane.
18	Correction	41; column 2; Carpooling and vanpooling	Carpooling is <u>commonly defined as</u> when two or more people share a ride...
19	Clarification	P45	LAND USE. First paragraph. Why are there question marks on the years in, "Forecasts for the 2017? through 2025? planning years..."
20	Define	945	LAND USE. Define small area levels in "The baseline growth forecast provides the basis for developing the land use assumptions at the regional and <u>small area levels</u> which build 2020 Connect SoCal Plan Alternative."
21	Clarification / Correction	p. 47; column 2; New infrastructure	Clarify what the \$285.3 billion figure refers to and verify the amount. Is this supposed to be the total capital projects and other programs? Replace "appendices" with "technical reports"

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Table 6. DEMOGRAPHICS AND GROWTH FORECAST TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
2	General Comment	All maps with growth forecast and development types data	Add: <u>“Note: The forecasted land use development patterns shown are based on Transportation Analysis Zone (TAZ) level data utilized to conduct required modeling analyses. Data at the TAZ level or at a geography smaller than the jurisdictional level are advisory only and non-binding, because SCAG sub-jurisdictional forecasts are not to be adopted as part of the 2016 RTP/SCS. The advisory sub-jurisdictional data shall not be required for purposes of qualifying for future grant funding or other incentives or for determining a proposed project’s consistency with the 2016 RTP/SCS for any impact analysis required pursuant to the California Environmental Quality Act (CEQA).”</u>
3	Correction	p. 2; column 1; last paragraph; last sentences	Replace “Economic Growth” with “Economic and Job Creation Analysis”
4	Correction	4; left column; Forecasting process overview; 2nd paragraph	Suggested edit: <p style="text-align: center;">After developing the draft 2020 RTP/SCS between July 2019 and October 2019, SCAG released the draft 2020 RTP/SCS in <u>November</u> October 2019.</p>
5	Clarification	p. 7; Table 3	Verify values for 2000, 2010, and 2016 as they do not appear to be consistent with the Environmental Justice Technical Report. Verify 2016 median age as it does not appear to be consistent with the Environmental Justice Technical Report.
6	Clarification	p. 18; Special focus: workplace automation and the gig economy	It may be appropriate to address the implications of AB 5 here.
7	Clarification	p. 28; Figure 11	Verify that this is labeled correctly

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SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
8	Clarification	p. 29; Table 13; Population	Verify values as they do not appear to be consistent with the Environmental Justice Technical Report.
9	Clarification	P. 42; Table 15	Priority growth areas defined differently in main book. Share of total growth for households and employment are not consistent with the main book. Constrained areas (absolute and variable) are not consistently defined and show different acreage.

Table 7. ECONOMIC AND JOB CREATION ANALYSIS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Correction	p. 1; column 1; last paragraph	Suggested edit: Over the <u>FY2020-21 through FY2024-45</u> 2021-2045 period, our region is expected to invest more than \$603...
2	Correction	p. 5; column 2; Local (neighborhood) congestion and economic competitiveness; 1 st paragraph; 2 nd sentence	Replace “Los Angeles region” with “SCAG region”
3	Correction	p. 9; Table 1	Missing fiscal year notation
4	Correction	p. 10; left column; Jobs resulting from investment spending on construction, operation and maintenance, plus multiplier effects; 1 st line	Replace “2021-2025” with “FY2020-21 through FY2024-25”
5	Correction	p. 10; Table 2	Missing fiscal year notation
6	Correction	p. 11; Table 3	Missing fiscal year notation

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Correction	p. 11; column 2; Total jobs resulting from the investment spending and enhanced network efficiency; 1 st paragraph	Replace "2021-2045" with "FY2020-21 through FY2044-45"
8	Correction	p. 12; Table 4	Missing fiscal year notation
9	Correction	p. 12; column 1; Conclusion	Replace "2021-2045" with "FY2020-21 through FY2044-45"

Table 8. EMERGING TECHNOLOGY TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	Entire Section	The narrative focuses in on electrification. Emerging Technologies may not necessarily be integrated into the current market, therefore, to the extent possible, discussions should be technology neutral.
2	General Comment	Entire Section	The section seems to repeat itself quite often. The section could be consolidated into a more streamlined section.
3	General Comment/Citation of Source	7	The narrative includes the following statement: "Additionally, robust user surveys show that within urban centers, carshare users will eventually sell a household vehicle, or forego a planned vehicle purchase, and instead adjust their daily trips using transit and active transportation." Citation should be included for the "user surveys" referenced, how many people in the survey, is this a Southern California survey? Additional details are needed.
4	General Comment	7	Under the Alternative Fuel Vehicles section. Following the use of the Emergency Public Safety Public Shutdown (PSPS) in the autumn of 2019, there is an increase focus on how electric vehicles will be charged if there is no electricity. Generators were needed throughout Northern California to provide power to charge vehicles. With the potential for PSPS events to increase, should there be less of a focus on electrification and more on technology neutral Alternative Fuel Vehicles?

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SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
5	Clarification	p. 8; column 2; Ridehailing/transportation network companies (TNCs)	It may be appropriate to address the implications of AB 5 here.
6	General Comment	8	How will Assembly Bill 5 impact Transportation Network Companies (TNCS) such as Uber and Lyft? Some note or consideration should be given to the significant impacts AB 5 will have on the gig worker sector.
7	General Comment	11	The Public Health/Safety paragraph focuses on electrification of the fleet only. Other technologies should be included in this section. Don't hydrogen fueled vehicles yield the same public health impacts as electric vehicles. Why isn't this section technology neutral if there are identical or very similar outcomes.
8	Reword Title	12	"Decline in Collisions and Deaths from Connected and Automated Features". Is there adequate data to support this statement? There have been a number of incidents (resulting in death) that have been attributed to the Tesla automated driving system. Additionally, we do not yet know the impact of connected vehicles or fully automated vehicles. While speeds may decrease, there is an increase in cyber threats and cyber terrorism. This is a very misleading title, if it is not removed, it should, at a minimum, be reworded to state "Potential Decline in Collisions and Deaths..."
9	General Comment/Correction	14	Vehicle Electrification. Almost all focus is on vehicle electrification. There should be equal space given to the other types of emerging alternative fuel technology. With the potential increased risk of PSPS (referenced in a previous comment), people may consider an alternative fuel technology different than electrification.
10	General Comment	15	Under "Existing Conditions: Alternative Fuel Vehicles" – again, this discussion is very focused on electric vehicles. There should be data regarding CNG, H2, and other technology. The constant focus on electric vehicles and electrification is leading.
11	General Comment	22	Focus on Vehicle Electrification is not technology neutral.

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Table 9. ENVIRONMENTAL JUSTICE TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	Page 3, Column 2, Paragraph 2, last sentence	Missing word – “As a part of [this or the] program, the agency also:
2	Clarification	p. 5; Table 1; Neighborhood change and displacement; Current conditions analysis	Consider rephrasing as this suggests that minority or EJ populations do not currently reside in suburban locations in the region.
3	Correction	5; Table 1; Rail-related impacts	Asterisks but no corresponding note.
4	Clarification	p. 19; column 1; How will impacts be analyzed?; 2nd paragraph; last sentence	Clarify if this is different than the Baseline definition used elsewhere in the Plan.
5	Clarification	p. 20; Table 5	Verify values for 2000, 2010, and 2016 total population and 2016 median age as they appear to be inconsistent with the Demographics and Growth Forecast Technical Report.
6	Clarification	p. 21; column 1; Historical demographic trends; 2nd paragraph	Verify value for 2016 median age as it appears to be inconsistent with the Demographics and Growth Forecast Technical Report. Define senior population.
7	Clarification	p. 21; column 2; Historical demographic trends; 2nd paragraph; last sentence	Explain why the travel demand model predicts a future that is inconsistent with the trend.
8	Clarification	p. 23; Table 7; Total population	Verify values as they appear to be inconsistent with the Demographics and Growth Forecast Technical Report.
9	Clarification	p. 24; column 1; Demographic trends in EJ areas in the SCAG region; 1st paragraph	Verify 68.6 percent figure with Demographics and Growth Forecast values, which indicate that White, non-Hispanic accounted for 41.7 percent of the regional population in 2016.



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
10	Clarification	p. 26; column 1; Demographic trends in SB 535 Disadvantaged Communities in the SCAG region; last paragraph	Verify values for median age and percent of the seniors as they appear to be inconsistent with the Demographics and Growth Forecast Technical Report.
11	Clarification	p. 30; column 1; Expected future trends in EJ geographies; 2nd paragraph; last sentence	Explain why the travel demand model assumes a decrease in poverty.
12	Clarification	p. 30; column 1; Expected future trends in EJ geographies; 3rd paragraph; 1st sentence	Explain why the travel demand model predicts a future that is inconsistent with the trend.
13	Clarification	Table 13	Add a column with the difference between High Wage and Low Wage Commute Distance
14	Clarification	Page 39, Column 2, Paragraph 1	<p>“SCAG used the regional median household income—the midpoint of an income distribution in the SCAG region—as Area Median Income (AMI) limit and assumed that a housing unit is affordable if a household whose income is at or below 80% of the AMI can live there without spending more than 30% of their income on rental units.”</p> <p>How was the regional median household income calculated? Why is AMI referenced if regional median was used? This really skews high wages and low wages between the region. For example, high wages in San Bernardino could be considered low wages in Orange County. While this may help social equity at the regional level, it is misleading at the County level.</p>



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
15	Clarification	Page 39, Column 2, Paragraph 1, Last Sentence	<p>“As is the case in job-to-worker ratio analysis, SCAG used a 2.5-mile buffer from the centroids of the census tracts and counted jobs and housing within the buffer distance to estimate the jobs-housing ratio and the low-wage jobs-housing fit at the neighborhood level.”</p> <p>This calculation at the census tract level seems like it would skew the results for census tracts that are primarily residential. For example, refer to Exhibit 12 to see that residential areas with little to no commercial nearby demonstrate that the ratio of low-wage jobs to affordable rental units is extremely high. In many areas, if more housing is built, it will result in a greater imbalance between jobs and housing.</p>
16	Clarification	Page 39, Column 2, Paragraph 3	EXHIBIT 9 - EXHIBIT 12
17	Clarification	p. 45; column 1; Results; 2nd paragraph; 1st sentence	Clarify end of sentence—“...future Technical Report.”
18	Correction	Page 46, Column 2, Paragraph 3	“They found that neighborhood <u>s</u> with higher public and private investment experienced more gentrification. “
19	Clarification	Page 49, Paragraphs 3-5	<p>Who is “he” referenced in the analysis?</p> <p>Replace “he” with name of researcher/s.</p>
20	Correction	Exhibit 13, p. 54	Remove I5 BRT line from map
21	Define	Exhibit 14, p. 55	<p>Define ‘communities of concern’ on the map.</p> <p>Some of these communities are brand new (e.g., Aliso Viejo, Rancho Santa Margarita) or were quickly developed over several decades and thus, have experienced significant change, but are far from being considered gentrified communities.</p>
22	Clarification	p. 73; column 2; Results; 2nd paragraph; 4th sentence	Why the San Gabriel National Monument? For example, the Santa Monica Mountains National Recreation Area is accessible by regular bus service.



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
23	Clarification	p. 74; column 2; Accessibility to the San Gabriel National Monument	Why the San Gabriel National Monument? The Santa Monica Mountains National Recreation Area is accessible by regular bus service. Every state park in Orange County is accessible by transit plus a three-mile walking threshold.
24	Clarification	p. 92-93; Exhibits 21 and 22	An EJ area overlay would be useful.
25	Clarification	p. 95; column 1; Case study 1 – Advanced research on the built environment and collisions	Suggest enhancing the linkage to EJ.
26	Correction	Page 95, Column 2, Paragraph 3, Last Sentence	“Therefore, the collisions not only between automobile and bicycle but also between automobile <u>automobiles</u> do not stand out at the intersections with bicycle lane.”
27	Clarification	p. 99; Exhibit 24	An EJ area overlay would be useful.
28	Clarification	p. 101; Exhibit 25	An EJ area overlay would be useful.
29	Clarification	p. 103; Exhibit 26	An EJ area overlay would be useful.
30	Correction	p. 114; column 2; Trends and dynamics of aviation noise in the SCAG region and beyond; 1 st paragraph	Replace “SCAG Aviation Technical Chapter” with “Aviation and Airport Ground Access Technical Report”
31	Clarification	p. 116; column 1; Roadway noise impacts; 1 st paragraph	Verify value for centerline miles as it appears to be inconsistent with main book and Highways and Arterials Technical Report.
32	Clarification	p. 120; Exhibit 27	Why are low volume, lower speed State Highways be included here, such as SR-39 and SR-74?
33	Clarification	p. 126-129; Exhibits 28-31	An EJ area overlay would be useful. Can resolution be improved?
34	Clarification	p. 134-135; Exhibits 32-33	An EJ area overlay would be useful.



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
35	Clarification	p. 162; column 1; Results; 1 st paragraph	Suggest delete "general toll lanes," to match Table 57.
36	Clarification	p. 164; Exhibit 34	An EJ area overlay would be useful.

Table 10. GOODS MOVEMENT TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 13; column 2; Highway system; last paragraph; 1st sentence	What about I-710 and I-605?
2	Correction	p. 28; column 2; Figure 12	Capitalize "SCAG"

Table 11. PERFORMANCE MEASURES TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 14; column 2; Analytical approach; 2nd bullet	Suggest revising language to reflect definition of Baseline from Glossary of main book.
2	Performance Measures	Page 16, Column 1, Paragraph 3 (Land Consumption)	Why does this only analyze agricultural land and not vacant land?
3	Performance Measures	Page 18, Column 1, Paragraph 1 (Average Distance Traveled)	Is this even significant? 16.9 miles to 16.7 miles and 5.5 miles to 5.4 miles? Maybe indicate that this decrease is not significant?
4	Clarification	p. 51; Table 16	Suggest revising title to reflect pollutant emission reductions
5	Clarification	p. 57; Table 20	Verify Connect SoCal results for walk share (all trips) and bike share (all trips) as it appears to be inconsistent with the main book and Active Transportation Technical Report.

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	p. 58; Table 20	<p>Replace "0.0%" with "N/A" for Trend for GHG emission reductions</p> <p>Missing footnote for asterisks for Baseline GHG emissions.</p> <p>Missing asterisks on Baseline criteria pollutant emissions to match footnote on page 59.</p>

Table 12. HIGHWAYS AND ARTERIALS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 1; column 2; Executive summary	Verify centerline and lane miles as it appears that values are inconsistent with Environmental Justice Technical Report and Transportation Conformity Technical Report.
2	Clarification	p. 4; column 1; Regional significance	Verify mileage as it appears that values are inconsistent with Environmental Justice Technical Report and Transportation Conformity Technical Report.
3	Clarification	P5, column 1, paragraph 3	<p>Is this the most recent available data- 2012?</p> <p>In the SCAG region, nearly 44 percent of all pedestrian injuries are at intersections. (California Highway Patrol (2012). California Statewide Integrated Traffic Records System.)</p>
4	Clarification	ALL EXHIBITS	Reference to Route 206? between the 210 and 15 freeways north of Fontana
5	Clarification	GLOBAL	Lack of text reference to Exhibits, Figures/ Tables
6	Clarification	P7 and Global, column 1, paragraph 1	<p>Unsubstantiated citing of statistics e.g., What is the source of this information?</p> <p><i>On average, 1,500 people die, more than 5,200 are severely injured and 136,000 are injured on roadways throughout the SCAG region every year. These collisions are happening in communities all over the region, but 90% of collisions occur in urban areas and most collisions occur on local roads, not on highways. In fact, in the SCAG region, 65% of fatalities and serious injuries occur on less than 1.5% of the roadway network.</i></p>

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
7	Clarification	P10, column 1, paragraph after the 4 bullets	SCAG will monitor these conditions to ensure they improve as expected and evaluate if the new funding is adequate to get the region's system in a state of good repair moving forward. What happens if the conditions do not improve as expected or if the funding is inadequate? What's the timeframe for the expected improvements- this RTP cycle?
8	Correction	P11	EXHIBIT 2 – Fix floating labels (roadways not showing on exhibit- only labels)
9	Correction	P12	EXHIBIT 3 Title - Plan Year 2045...(to be consistent with the text on p10 under Arterial Network).
10	Clarification	p. 20; Programmed commitments	It may be worth noting that Connect SoCal also includes expenditures for O&M as written on page 14.

TABLE 13. PASSENGER RAIL TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All	Spell out all Acronyms when it's being used for the first time in the technical report
2	Clarification	2; column 2; Importance to the regional transportation system; 2nd paragraph	Verify Metrolink's route miles as it appears to be inconsistent with latest (FY19-20) Metrolink adopted budget information.
3	Clarification	4; column 2; Regional; 1st paragraph	Verify Metrolink's route miles as it appears to be inconsistent with latest (FY19-20) Metrolink adopted budget information.
4	Clarification	Pg. 5	Explain what LINKUS is, or refer to the section that has the explanation
5	Clarification	Pg. 5	Explain what type of capital improvements are being proposed/completed

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	p. 5; column 1; Modeling approach and ridership forecasting; 1st paragraph; last sentence	Clarify this statement. It appears that the Metrolink SCORE program was assumed to be fully implemented and in operation beginning in 2035 in other parts of Connect SoCal.
7	Clarification	p. 6; column 1; Connectivity and gaps in service; 1st paragraph	It is worth noting that the Norwalk/Santa Fe Springs Metrolink Station is not served by Amtrak Pacific Surfliner.
8	Clarification	p. 8; column 2; The Southwest Chief	Provide applicable updates.
9	Correction	Pg. 9	Correct the formatting error under Metrolink section
10	Clarification	Pg. 11	The map should indicate different lines of Metrolink
11	Define	p. 14; column 1; Palmdale to Hollywood Burbank Airport	Define "SAA"
12	Clarification	14; column 2	Provide applicable updates on EIR/EIS documents.
13	Correction	Pg. 17	... all commuter and intercity trains enter and exist <u>exit</u> LAUS through a constricted five-track "throat" located north of station.
14	Clarification	Pg. 18, Table 1	Clarify why Tres Estrellas de Oro and TUFESA do not have associated cities
15	Clarification	Pg. 19	Clarify why Tres Estrellas de Oro and TUFESA are not shown on the map
16	Clarification	Pg. 23, Figure 5	Use/show percentages to demonstrate data. It's not clear what the numbers mean.
17	Clarification	Pg. 24 and 26	Provide more clear status updates for projects
18	Correction	Pg. 30	The effort took a comprehensive look at a variety of the agency's organizational elements including a strengths, weakness, opportunities, and challenges <u>threats</u> analysis (SWOT analysis),...
19	Correction	Pg. 31	<ul style="list-style-type: none"> A candidate project list is incorporated in to <u>into</u> the MOU <u>MOU</u> for the \$1 billion in early investments to be funded by 2020.

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	Pg. 34	Explain what the difference is between Constrained Plan and Strategic Plan

Table 14. PUBLIC HEALTH TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 2; column 2; Executive summary; 1st paragraph	Suggest revising comparison of criteria pollutant emissions to Base Year per footnotes in Performance Measures Technical Report and main book.
2	Clarification	p. 2; right column; Executive summary; 1st paragraph	Suggest reference to Baseline definition in Glossary of main book
3	Clarification	p. 2; column 2; Executive summary; 2nd paragraph	Verify time savings by mode, mode share changes between Baseline and Plan as it appears the values are not consistent with the Performance Measures Technical Report, Active Transportation Technical Report, and main book.
4	Clarification	p. 45; Table 5	Verify Baseline and Plan values for share of growth in HQTAs as it appears to be inconsistent with main book. Verify Baseline and Plan values for criteria pollutants as it appears to be consistent with main book. What unit are the criteria pollutant emissions shown?
5	Clarification	p. 46; Table 5	Verify Baseline and Plan values for share of jobs in HQTAs as it appears to be inconsistent with main book.
6	Clarification	p. 49; Table 8	Verify Plan value for percentage of PM peak transit trips less than 45 minutes as it appears to be inconsistent with main book.
7	Clarification	p. 52; column 2; Table 10	Verify Baseline and Plan values for criteria pollutants as it appears to be consistent with main book. What unit are the criteria pollutant emissions shown?
8	Clarification	p. 56; column 1; Table 12	Verify Baseline and Plan values for share of jobs in HQTAs as it appears to be inconsistent with main book.

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Table 15. PUBLIC PARTICIPATION TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	Tables 2 & 4	Add number of attendees for each event

Table 16. SCS TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All maps	All maps in all reports/documents need to be branded with 2020 RTP/SCS/Connect SoCal along with the specific report it is within. Maps are often pulled out as singular items and the maps need to be standalone documents.
2	General Comment	All	Review use of “cities”. Word “jurisdictions” should often be used to include counties and incorporated cities, not just incorporated cities.
3	Correction	p. 16-18, Figures 2,3,4	Delete Figures 2,3, & 4. These figures include draft scenarios used at the public workshops that do not properly reflect development agreements and entitled projects. This was shared with SCAG staff and its consultants at the public workshops. The response was that the maps would be corrected; they were never corrected. Although these were draft scenarios used to collect public input, since they do not properly reflect entitlements, they should be removed from the SCS document so as to not further mislead any reader that these were viable options.
4	Clarification	p. 16 column 2, paragraph 2	“In this future, more funding is available to invest in expanded bus and rail networks...” Clarify where the funding comes from for these programs.
5	Clarification	p. 16 column 2, paragraph 2	“More drivers would be able to make the switch to electric vehicles, because additional funding is secured for EV charging infrastructure and local consumer rebates make electric vehicles more accessible.” Clarify where the funding comes from for these programs. Explain how blackouts will be dealt with.

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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
6	Clarification	p. 22 column 2, paragraph 2	<p>“Conversely, growth focused in urban areas often takes advantage of existing infrastructure and more efficient service to higher concentrations of jobs and housing.”</p> <p>Add: <u>But, infrastructure capacity needs to be evaluated to determine if additional growth will exceed capacity and would then require infrastructure expansion.</u></p>
7	Clarification	p. 29 column 1, paragraph 2	<p>“...with priority placed on infill settings, existing/planned service areas and within the planning boundary outside of an agency’s legal boundary, otherwise known as “Spheres of Influence-<u>z</u>” <u>where feasible.</u>”</p>

Table 17. TRANSIT TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	Clarification	p. 24-29; Exhibit 1-6	Suggest changing coloring for Urban Rail. Coloring used for 2045 network works better.
2	Correction	p. 76; column 1; Planned HQTCS; 2 nd paragraph	Replace “V4” with “Exhibit 14”
3	Correction	p.84; last line	Replace “V4” with “Exhibit 14”

Table 18. TRANSPORTATION CONFORMITY TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	Correction	p. 21; column 2; Connect SoCal No Build	Correct years of FTIP.
2	Clarification	P42	<p>Right column, paragraph under Criteria and Procedures...of TCMs</p> <p>...the shortfall must be made up by either substituting a new TCM strategy or by enhancing other control measures through the substitution. (sounds incomplete)</p>

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SUB-1

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
3	Clarification	P44	Last line on the left column— “see Section III.2 of this document.” Not clear which document this is referencing. (No Section III in the Technical Report or Main document)

Table 19. TRANSPORTATION FINANCE TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	RTP NARRATIVE, COMMENT & RECOMMENDATION
1	Correction	p. 10; Table 3.1; Local option sales tax measures	Los Angeles County effectively levies a permanent 2.0 percent sales tax with passage of Measure M.
2	Correction	p. 10; Table 3.1; Highway tolls	Suggest deleting “(in core revenue forecast” since a toll revenue source is not included in the reasonable available sources.
3	Correction	p.29	HIGHWAY TOLLS, first paragraph, revise as follows: TCA consists of two separate government entities—the San Joaquin Hills Transportation Corridor Agency Agencies (SJHTCA), which oversees the San Joaquin Hills (State Route 73) toll road, and the Foothill/Eastern Transportation Corridor Agency Agencies (F/ETCA), which oversees the Foothill (State Route 241) and Eastern (State Route 241, State Route 261, and State Route 133) toll roads.

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TABLE 20. TRANSPORTATION SAFETY & SECURITY TECHNICAL REPORT COMMENTS

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
1	General Comment	All	Spell out all Acronyms when it’s being used for the first time in the technical report
2	General Comment	All	Size of bullets are too big
3	Clarification	Pg. 1	Traffic collisions also relate to congestion and, thus, involve greenhouse gas emission due to bottlenecking and emergency management fees. ← does not make sense? Why would it involve fees? Is it meant to say cost?



SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
4	Correction	Pg. 7	Existing Conditions <u>for</u> Safety: This section...
5	Define	Pg. 21	Define "Traffic Calming Measures".
6	Clarification	p. 29, column 1, paragraph 2	<p>"Fatalities and serious injuries related to aggressive driving and speeding have increased as seen on the table, and below are some strategies SCAG recommends local jurisdictions to implement strategies that could reduce fatalities and serious injuries related to <u>related to</u> aggressive driving and speeding, <u>which could include, but are not limited to:-</u></p> <ul style="list-style-type: none"> • Local jurisdictions should conducting public outreach... • Local jurisdictions should identifying locations with... • Local jurisdictions should promoting best engineering... • Local jurisdictions should setting speed limits that are safe..." <p>As written, these items sound like mitigation measures and mandates. We recommend reformatting as suggested.</p>
7	Clarification	p. 29, column 2, paragraph 1	<p>"SCAG recommends the following strategies for local jurisdictions to improve safety for aging populations, <u>which could include, but are not limited to:-</u>"</p> <ul style="list-style-type: none"> • Local jurisdictions should supporting roadway, intersection... • Local jurisdictions should promoting implementation of ... • Local jurisdictions should implementing design treatments... • Local jurisdictions should working with Transit network... • Local jurisdictions should establishing Safe Routes for ..." <p>As written, these items sound like mitigation measures and mandates. We recommend reformatting as suggested.</p>



SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
8	Clarification	p. 30, column 2,	<p>“SCAG recommends the following strategies for local jurisdictions to improve safety for bicyclists, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should supporting connecting bicycle... • Local jurisdictions should developing and implement... • Local jurisdictions should adopting Complete Streets... • Local jurisdictions should implementing pedestrian and... • Local jurisdictions should using intersection control... • Local jurisdictions should conducting bicycle education... • Local jurisdictions should supporting expanding Safe... • Local jurisdictions should utilizing SCAG’s ... • Local jurisdictions should implementing traffic calming... • Local jurisdictions where applicable should developing a... • Local jurisdictions should participating in programs to...”
9	Clarification	p. 31, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to improve commercial vehicle safety, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should supporting the use of dedicated... • Local jurisdictions should identifying intersections and... • Local jurisdictions should identifying and promote the... • Local jurisdictions should identifying rest stops along...”
10	Clarification	p. 31, column 2	<p>“SCAG recommends the following strategies for local jurisdictions to reduce fatalities and injuries related to distracted driving, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should developing enforcement and... • Local jurisdictions should improving data quality on... • Local jurisdictions should conducting education on the...”
11	Clarification	p. 31, column 2	<p>“SCAG recommends the following strategies for local jurisdictions to improve emergency response services, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should using Intelligent... • Local jurisdictions should developing guidance...”

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SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
12	Clarification	p. 34, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to improve research and data collection, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should improving data collection... and • Local jurisdictions should identifying high injury... • Local jurisdictions should working with the State and... • Local jurisdictions should working with transit network...”
13	Clarification	p. 34, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to improve research and data collection, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should improving data collection... • Local jurisdictions should identifying high injury... • Local jurisdictions should working with the State and... • Local jurisdictions should working with transit network...”
14	Clarification	p. 34, column 1	<p>“SCAG recommends the following strategies for local... jurisdictions to reduce impaired driving fatalities and injuries, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should promoting and expand safe... • Local jurisdictions should extending and promote late... • Local jurisdictions should developing a methodology to... • Local jurisdictions should developing and distribute a... • Local jurisdictions should designing and develop a study... • Local jurisdictions should improving enforcement with... • Local jurisdictions should increasing frequency...”
15	Clarification	p. 35, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to improve safety at intersections, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Incorporate intersection safety into the planning grant strategy. • Local jurisdictions should incorporating Intelligent... • Local jurisdictions should implementing infrastructure... • Local jurisdictions should implementing installation of... • Local jurisdictions should planning for, and develop... • Local jurisdictions should reducing modal conflicts at...”

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SUB-1

#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
16	Clarification	p. 35, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to reduce the occurrence of lane departure fatalities and injuries, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should continuing the deployment... of • Local jurisdictions should addressing systemic risks on... • Local jurisdictions should improving the dissemination... • Local jurisdictions should targeting highest risk... • Local jurisdictions should implementing an effective... • Local jurisdictions should promoting the use of vehicle...”
17	Clarification	p. 36, column 2	<p>“SCAG recommends the following strategies for local jurisdictions to improve motorist safety, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should working with the state and... • Local jurisdictions should working with local... • Local jurisdictions should promoting the most...”
18	Clarification	p. 37, column 1	<p>“SCAG recommends the following strategies for local jurisdictions to improve occupant protection, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should increasing enforcement and... • Local jurisdictions should implementing education ... • Local jurisdictions should promoting the establishment... • Local jurisdictions should improving occupant...”
19	Clarification	p. 37, column 2	<p>“SCAG recommends the following strategies for local jurisdictions to improve pedestrian safety, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Continuing to work with local jurisdictions to provide a... • Local jurisdictions should developing pedestrian safety... • Local jurisdictions should ensuring all sidewalks and... • Local jurisdictions should supporting improvements to... • Local jurisdictions should considering pedestrian needs in... • Local jurisdictions should facilitating the planning... • Local jurisdictions should increasing pedestrian crossing... • Local jurisdictions should incorporating pedestrian... • Local jurisdictions should participating in programs... • Local jurisdictions should improving pedestrian striping... • Local jurisdictions should incorporating median... • Local jurisdictions should considering installation of... • Local jurisdictions should developing citywide Safe... • Local jurisdictions should continuing to improve...”



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#	TOPIC	PAGE REFERENCE	NARRATIVE, COMMENT & RECOMMENDATION
20	Clarification	p. 38, column 1	<p>SCAG recommends the following strategies for local jurisdictions to improve work zone safety, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should improving safe driving... • Local jurisdictions should applying advanced technology ... • Local jurisdictions should improving work zone data..."
21	Clarification	p. 38, column 2	<p>SCAG recommends the following strategies for local jurisdictions to improve safety for young drivers, <u>which could include, but are not limited to:</u></p> <ul style="list-style-type: none"> • Local jurisdictions should establishing a task force to... • Local jurisdictions should implementing the Driver... • Local jurisdictions should supporting state authorities... • Local jurisdictions should implementing and maintain... • Local jurisdictions should establishing efforts to address..."
22	Correction	Pg. 39	4 th bullet: sentence is not finished
23	Correction	Pg. 39	5 th bullet: First part of the sentence is missing
24	Correction	Pg. 40	<p>Urban areas are usually multi-modal and have more conflict points. As speed increases, driver focuses less on surroundings, <u>and the driver's</u> Driver's field of vision & ability to see pedestrians, bicyclists or cars entering the roadway is diminished.</p>



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TRANS-1

January 21, 2020

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Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Connect SoCal Team:

The Los Angeles Metropolitan Transportation Authority (Metro) appreciates the opportunity to review and comment on the draft Connect SoCal plan.

The Connect SoCal plan aligns closely with many Metro plans and policies, including Metro's Vision 2028 Plan and 2020 Long Range Transportation Plan (LRTP). Collectively, our plans share many of the stated goals of Connect SoCal to improve mobility, accessibility, safety and resiliency of our transportation system while reducing greenhouse gas emissions (GHG) and supporting healthy equitable communities.

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As the largest provider of public transportation in the Southern California Association of Governments (SCAG) region, Metro recognizes the critical role we play as a partner in achieving the ambitious GHG and vehicle miles travelled (VMT) reduction targets identified in the Connect SoCal plan. Metro is fully committed to supporting SCAG in reaching these targets through the investment and deployment of mobility solutions.

Cities, through their public engagement processes, land use authority and management of their street network, similarly will be critical to achieving the targets set in the Connect SoCal plan. To this end, Metro recommends that SCAG consider a more robust plan to support cities with SB 743 implementation. As you are aware July 1, 2020 is the statewide implementation date for public agencies to adopt VMT as a metric for identifying and mitigating transportation impacts within CEQA. To date, very few cities in Los Angeles County have adopted the required changes. SCAG should consider providing technical assistance to cities directly, or at the subregional level, regarding the assessment of VMT, the development of thresholds of significance and mitigation measures. A regional approach to SB 743 implementation would not only provide consistency but may also support the further development of a quantifiable set of mitigation measures over time that reliably reduce VMT.

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Thank you again for the opportunity to comment. I look forward to our continued collaboration in advancing sustainable mobility strategies throughout the region.

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Sincerely,

Kalieh Honish
Executive Officer, Long Range Planning
Metro Countywide Planning & Development

**2020 RTP/SCS PEIR
OCTA Technical Comments**

#	Chapter	Page and location	Comment
1	<i>Executive Summary</i>	ES-4; second bullet	Replace "\$633.9 billion" with "\$638.6 billion"
2	<i>Executive Summary</i>	ES-6, <i>Table ES-2</i>	Reformat to help clarify to readers that several rows are subsets of a row above (e.g., "Arterials" are a subset of "Capital Projects and Other Programs").
3	<i>Executive Summary and 2.0 Project Description</i>	ES-10 and 2.0-31; <i>Congestion pricing</i>	Consider adding local road charge program to this section.
4	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5</i> (2.0-26 and 3.4-71)	Suggested edit: PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
5	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5</i> (2.0-27 and 3.4-78)	Suggested edit: PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:

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**2020 RTP/SCS PEIR
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#	Chapter	Page and location	Comment
6	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5 (2.0-29 and 3.4-84)</i>	<p>Suggested edit:</p> <p>PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency.</p>
7	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5 (2.0-30 and 3.4-89)</i>	<p>Suggested edit:</p> <p>PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>
8	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5 (2.0-32 and 3.4-94)</i>	<p>Suggested edit:</p> <p>PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency.</p>

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**2020 RTP/SCS PEIR
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#	Chapter	Page and location	Comment
9	<i>Executive Summary and 3.4 Biological Resources</i>	<i>Table ES-5 (2.0-33 and 3.4-98)</i>	<p>Suggested edit:</p> <p>PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>
10	<i>Executive Summary and 3.5 Cultural Resources</i>	<i>Table ES-5 (2.0-34 and 3.5-35)</i>	<p>Suggested edit:</p> <p>PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>
11	<i>Executive Summary and 3.5 Cultural Resources</i>	<i>Table ES-5 (2.0-36 and 3.5-41)</i>	<p>Suggested edit:</p> <p>PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, <u>where applicable and feasible</u>. Such measures may include the following or other comparable measures identified by the Lead Agency:</p>

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**2020 RTP/SCS PEIR
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#	Chapter	Page and location	Comment
12	<i>Executive Summary and 3.7 Geology and Soils</i>	<i>Table ES-5 (2.0-37 and 3.7-35)</i>	Suggested edit: PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
13	<i>Executive Summary and 3.7 Geology and Soils</i>	<i>Table ES-5 (2.0-39 and 3.7-41)</i>	Suggested edit: PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
14	<i>Executive Summary and 3.9 Hazards and Hazardous Materials</i>	<i>Table ES-5 (2.0-39 and 3.8-68)</i>	Suggested edit: PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
15	<i>Executive Summary and 3.10 Hydrology and Water Quality</i>	<i>Table ES-5 (2.0-52 and 3.10-67)</i>	Project Level Mitigation Measure PMM-HYD-4 states “ensure all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation”. Clarify if this only applies to bridges. The cost to raise rail tracks and highways one foot could be very expensive.

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**2020 RTP/SCS PEIR
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#	Chapter	Page and location	Comment
16	<i>Executive Summary and 3.13 Noise</i>	<i>Table ES-5 (2.0-57 and 3.13-45)</i>	Suggested edit: PMM-NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
17	<i>Executive Summary and 3.17 Transportation, Traffic, and Safety</i>	<i>Table ES-5 (2.0-64 and 3.17-63)</i>	Suggested edit: PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
18	<i>Executive Summary and 3.18 Tribal Cultural Resources</i>	<i>Table ES-5 (2.0-66 and 3.18-20)</i>	Suggested edit: PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:
19	<i>2.0 Project Description</i>	<i>2.0-17; Table 2.0-3</i>	Reformat to help clarify to readers that several rows are subsets of a row above (e.g., "Arterials" are a subset of "Capital Projects and Other Programs"). Add asterisks to applicable items ("Other", "Regionally Significant Local Streets and Roads").

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2020 RTP/SCS PEIR
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#	Chapter	Page and location	Comment
20	2.0 Project Description	Figures following 2.0-42	Update figures to reflect comments submitted on RTP/SCS and Technical Reports, including but not limited to Figure 2.0-5, Figure 2.0-8, Figure 2.0-11, and Figure 2.0-18.



January 24, 2020

Mr. Kome Ajise
 Southern California Association of Governments
 900 Wilshire Blvd., Ste. 1700
 Los Angeles, CA 90017

Subject: Comments by San Bernardino County Transportation Authority and San Bernardino Council of Governments on the draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (*Connect SoCal*) and draft Program Environmental Impact Report

Dear Mr. Ajise:

The San Bernardino County Transportation Authority (SBCTA) and San Bernardino Council of Governments (SBCOG) appreciate the opportunity to provide comments on the Southern California Association of Governments' (SCAG's) draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and draft Program Environmental Impact Report (PEIR). Both documents have been very professionally prepared, with substantial input over the last several years from County Transportation Commissions (CTCs), councils of governments (COGs), local jurisdictions, other transportation agencies, advocacy groups, and the public. We appreciate the working relationship we have had with SCAG to bring the 2020 RTP/SCS to this point in its development. We look forward to the Regional Council's approval of the RTP/SCS in April and receiving subsequent federal approval for air quality conformity.

1

Our comments can be classified into three general themes:

- A summary of SBCTA's sustainability activities over the last several years
- Overall perspectives on the 2020 RTP/SCS
- Specific comments on the content of the draft RTP/SCS and PEIR (Attachment 2) and a list of edits to the San Bernardino County portion of the RTP/SCS Project List (Attachment 3)

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SBCTA AND SBCOG SUSTAINABILITY INITIATIVES

As you are aware, SCAG and SBCTA jointly executed a Sustainability MOU in 2014 titled "Collaboration between SBCTA and SCAG to Implement the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy." Although the MOU itself has become dated at this point, it is important to recognize that SBCTA and our local partners (transit agencies and local jurisdictions) are proactively pursuing sustainability initiatives throughout San Bernardino County. These activities represent important contributions to sustainability

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Kome Ajise
January 24, 2020
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region-wide, and we thought it would be appropriate to highlight some of these in our comment letter on the RTP/SCS.

The San Bernardino Countywide Vision is a centerpiece of our sustainability activities. The Vision was adopted by the County of San Bernardino and SBCTA members in June 2011, well prior to the execution of the Sustainability MOU with SCAG. The Vision is very consistent with the direction of the RTP/SCS and gave San Bernardino County an important foundation for the activities that have been undertaken since that time. Extensive information is available on the Countywide Vision site at <http://cms.sbcounty.gov/cao-vision/Home.aspx>.

In brief, the following are recent and ongoing sustainability initiatives of SBCTA and SBCOG:

- Transit investments – Over \$600 million is being invested in high-capacity transit infrastructure over a 10-year period, an extraordinary investment for a county generally thought to be suburban, with just over 2 million residents.
- Joint report with SCAG: "*Customer-Focused, Technology-Enabled Multi-Modalism Action Plan*," completed in 2018 and containing 16 targeted initiatives for transit, transportation demand management (TDM), and active transportation in San Bernardino County.
- Active transportation – we have delivered or are in the process of delivering over \$50 million in State Active Transportation Program grants, together with our local partners.
- Expansion of the SBCTA rideshare/vanpool program (in progress)
- Zero-Emission Vehicle Readiness and Implementation Plan (completed 2019)
- Countywide GHG Reduction Plan and EIR (completed in 2014 and in the process of being updated to address SB 32 goals for GHG reduction)
- Regional Energy Partnership
- Partnerships on Clean Freight
- Climate Adaptation Plan and Partnership with Western Riverside COG (Plan will be complete in February)
- Healthy Communities Best Practices Toolkit
- Preparation of a Regional Conservation Investment Strategy (RCIS), pursuant to AB 2087 – Draft has been prepared, and is being refined using a Wildlife Conservation Board grant.
- SB 743 Countywide VMT Implementation Study (being completed in Spring 2020 for all the jurisdictions in the county)
- Two Comprehensive Multimodal Corridor Plans are underway, in partnership with the Riverside County Transportation Commission, Caltrans District 8, and SCAG.

Attachment 1 to this letter expands on these activities. The SBCTA Sustainability web page can be accessed at: <https://www.gosbcta.com/planning-sustainability/>.

OVERALL PERSPECTIVES ON THE 2020 RTP/SCS

Prior to the more detailed comments contained in the attachments, SBCTA has some overall perspectives for how the RTP/SCS can be used to achieve the mobility, safety, and sustainability goals of the region in the coming years. These comments relate to our own Countywide Transportation Plan; perspectives on transit, VMT, GHGs, and a multimodal transportation system; our emerging express lane network; goods movement; and airports.

SBCTA's Countywide Transportation Plan and Relationship to the 2020 RTP/SCS

SBCTA's 2015 Countywide Transportation Plan (CTP) is being updated to be consistent with the RTP/SCS. The 2015 CTP outlined a path forward for a sustainable transportation future, laying out an achievable strategy for highway and transit facilities, transit oriented development (TOD), air quality, GHG reduction, freight, airports, transportation demand management (TDM), active transportation, and funding. The CTP analyzes two future scenarios: a "baseline scenario" that assumes traditional revenue sources (generally consistent with what the RTP/SCS defines as "core revenues") and an "aggressive scenario" (generally consistent with RTP/SCS "Plan" revenues, including the innovative sources identified in the Plan). The projects and programs in the aggressive scenario of SBCTA's updated CTP are consistent with the lists in SCAG's RTP/SCS. SBCTA has provided SCAG with technical corrections to the San Bernardino County portion of the RTP/SCS project list in a separate communication so that the changes can be incorporated into the modeling for the final RTP/SCS.

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Need for a Balanced, Multimodal Transportation System

As noted above, SBCTA is investing heavily in the transit system, TDM, and active transportation. At the same time, our citizens and businesses remain extremely concerned about living up to the commitments in our Measure I half-cent sales tax. Much of the concern centers around the congestion on freeways, interchanges, and the regional arterial system. We have prioritized interchange improvements and are proceeding to deliver those improvements, having completed eight major interchange projects in the last 10 years. We are well into delivery of 10 additional interchanges and are working with local jurisdictions on strategic ramp improvements. Interstates 10 and 15 are being addressed largely through our managed lane strategy, as described in the next section.

We appreciate SCAG's acknowledgement that "*given that critical gaps and congestion choke points still exist in the system, improvements beyond those that are operational in nature still need to be considered*" (page 73 of RTP/SCS). In other words, the RTP/SCS acknowledges that highway improvements are still necessary, even though most of the attention is being given to trip-reduction strategies, with the goal of reducing GHGs and VMT.

At the same time, it is important to acknowledge that each individual project should not be expected to reduce VMT. What is important is the impact of the overall strategy. In San Bernardino County, the RTP/SCS shows that VMT per capita is being reduced by 2% through 2045 just with the "baseline" investment and by 5% with the "Plan" investment

(see page 122). While this is well below the 15% per capita reduction goal identified by the Governor's Office of Planning and Research (OPR), it represents billions of dollars of investment in transit and trip reduction measures over that time period and appears realistic for San Bernardino County to achieve. There are two primary points: 1) each project cannot be held to a VMT reduction target, and state/regional agencies should not impose that requirement; and 2) VMT thresholds should be set at levels that are achievable within the bounds of financial capacity and the modal choices that travelers make within the context of their geographic setting.

The RTP/SCS demonstrates how difficult it is to reduce VMT even with many billions of dollars invested in alternative modes of travel. Regionally, the Plan reduces per capita VMT by 9.5% between 2016 and 2045, but the population increases by about 20%. In other words, total VMT can still be expected to increase regionally by about 10%. The VMT increase in the Inland Empire will be more in the range of 25%. The rate of population growth tends to outstrip the per capita reductions that can be achieved, so expectations of VMT reduction need to be tempered with what is realistic.

The good news is that GHGs can be reduced even if the absolute VMT increases, following the same path as the region's remarkable improvement in air quality as population and travel has dramatically increased. This means that, for mobile sources, the path to GHG reduction will largely fall on clean energy production, energy efficiency, technological innovations, and more rapid turnover of vehicle fleets. The GHG analysis in the 2040 California Transportation Plan demonstrated that vehicle and fuels technology will be the primary way in which GHG reduction goals will need to be met. VMT reduction is an appropriate goal, but technology will be the principal path to long term GHG reduction. SBCTA looks forward to partnering with SCAG, the State, and the utility industry to pursue these opportunities, consistent with the initiatives we have mentioned earlier, while also doing what we can in transit and TDM to reduce VMT. We are excited to be involved in the Governor's "Regions Rise Together" initiative, which recognizes that there are no "one-size-fits-all" solutions as far as transportation management and GHG reduction are concerned.

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Regional Express Lane Network

As indicated in the RTP/SCS, SBCTA has two major express lane implementation initiatives: I-10 from the Los Angeles County line to Ford Street in Redlands, and I-15 from the Riverside County line, up the Cajon Pass, through Victor Valley, to just north of the Mojave River. These projects are not only multi-modal projects for passengers, with benefits for buses, vanpools, and 3+ carpools, but they will significantly improve freight mobility as well. Each project includes auxiliary lanes and will take some of the auto travel out of the general purpose lanes.

It is noteworthy that the I-10/I-15 interchange, at the heart of Inland Empire logistics activity, is designated as the 15th most critical freight bottleneck in the United States (per the American Transportation Research Institute), and the I-10 and I-15 corridors represent the major gateways from/to Southern California to/from the rest of America. The express lanes will also permit light duty (under 10,000 pounds) commercial traffic. Improvement of these corridors is a win-win for

both multimodal passengers and freight, but will need to be staged over the duration of the RTP/SCS.

One request from SBCTA is that one of the sample projects listed in the HOV section of Table 3.2 on page 77 of the RTP/SCS be swapped out with another from the project list. Please replace the I-210 project (Add one HOV lane in each direction from I-215 to I-10) with an additional express lane project (I-10 Contract 2A – add two Express Lanes in each direction from I-15 to Sierra Avenue). The I-10 project has more visibility, is more short term, and more appropriate for inclusion on the sample list. It has an expected completion year of 2029 and cost of \$700 million. This is consistent with FTIP amendment 19-13. No changes to the master project list are required.

Goods Movement

SBCTA appreciates SCAG's analysis of freight bottlenecks, documented in the Goods Movement appendix of the draft RTP/SCS. As you know, San Bernardino County is both benefitted by the logistics industry and at the same time heavily impacted by freight. Three of our freight bottlenecks appear on Exhibit 7: I-10 east of I-15, I-15 south of I-10, and I-15 through the Cajon Pass. This is consistent with the notation earlier about the critical bottleneck on the ATRI "top 100" list at the I-10/I-15 interchange. However, we would request that the 15,000-20,000 AVHD bottlenecks be added to Table 7 on pages 53 and 54, given that these are more "fixable" than many of the bottlenecks to our west, which may have higher delay values but are much more constrained and costly to improve.

The San Bernardino County bottlenecks have near-term solutions in the works, and are likely to be strong candidates for freight program funding at the State and federal level. There are only a few of these "second-tier" bottlenecks in the region and could easily be added to Table 7. We would also point out that our freight bottleneck on eastbound I-10 in Yucaipa is one that did not make the delay threshold, but can be addressed at a relatively low cost (\$37 million for a truck climbing lane). We would recommend that the next RTP/SCS include the "feasibility of improvement" as a factor in the bottleneck evaluation, particularly given the competitive nature of freight program funding grants, such as those for SB 1.

As an additional note, we believe that the regional freight collaboration that has worked so well for our regional project funding through the State's Trade Corridor Improvement Fund (TCIF) program should be re-invigorated. The collaboration is in a good position to craft a program of freight projects that can be most competitive for State and federal freight program funds.

Airports

It should be noted that control over Ontario International Airport (ONT) was transferred from the Los Angeles World Airports to the Ontario International Airport Authority (OIAA) in November 2016. SBCTA and our partner agencies appreciate the regional support that has been provided by SCAG and other agencies around the region, enabling ONT to serve 5.5 million

passengers in 2019, the highest level in a decade. We look forward to continuing local and regional efforts to make ONT a truly regional asset.

The RTP/SCS shows the projected airport passenger forecasts for 2017 through 2045 in Table 3.3. The Plan shows that LAX and ONT account for 80% of the passenger growth region-wide. LAX is forecast to increase by 42 million annual passengers (MAP) to 127 MAP, or 50% higher than existing. ONT is forecast to increase by 28 MAP to 33 MAP, or about six times the existing passenger volume. The market will ultimately determine how rapidly each airport will grow. However, it would be helpful if SCAG could consider some additional analysis as a way of quantifying airport accessibility. It is suggested that graphics be produced for each of the seven major airports that show travel time contours and the population within each contour. In other words, this would answer the question of how much population is within 15 minutes of each airport, 30 minutes of each airport, 60 minutes of each airport, etc for both peak and off-peak conditions. It would be done for both existing and 2045 to see how airport accessibility might change with changing traffic conditions. Perhaps for the next RTP/SCS an airport accessibility index could be developed. This could be an additional data point for the forecasting of future passenger volumes.

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Secondly, it would be beneficial to have SCAG compile regular monitoring data for all the airports in Southern California, perhaps on an annual basis, using the FAA Air Traffic Activity Data System (ATADS) or other appropriate data sources. This would be useful to just keep tabs on airport growth and operational characteristics region-wide. Finally, it would be useful for SCAG to maintain information on project activity at the airports, focusing on projects geared toward capacity expansion and airport efficiency improvements.

Programmatic Environmental Impact Report (PEIR)

Regarding the PEIR, we appreciate the structure of the document and the mitigation measures. The mitigation measures encourage action, but do not put requirements on the County Transportation Commissions or local jurisdictions, beyond those already required by State or federal law. It also acknowledges that project-level environmental studies will need to be conducted prior to the implementation of any specific project, which is why a lesser level of detail was provided in the PEIR.

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We have no significant comments on the PEIR. In Attachment 2 to this letter we indicate that it is difficult to match up VMT data between the RTP/SCS and PEIR. It may have to do with vehicle classes included or excluded, but we would request that differences in VMT, GHGs, or other performance measures between the two documents be clearly explained.

SCAG also indicates that the PEIR for the RTP/SCS may be useful as a basis for streamlining CEQA clearance for certain types of projects. SBCTA looks forward to collaborating with SCAG to take advantage of this opportunity, where possible.

Kome Ajise
January 24, 2020
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Please see the attachments for additional comments. As stated earlier, SBCTA appreciates all the efforts by the SCAG Regional Council and SCAG staff to make the 2020 RTP/SCS a reflection of where the region is headed over the next 25 years. We look forward to continuing partnerships with SCAG to implement the projects and programs in the RTP/SCS.

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Regards,



Raymond Wolfe
Executive Director

Attachment 1

SBCTA and SBCOG Sample Sustainability Initiatives

SBCTA and SBCOG have worked closely with SCAG in implementing and delivering sustainability projects in the region and have affirmed our commitment every four years when SCAG embarks on developing the RTP/SCS. In 2014, SBCTA/SBCOG and SCAG jointly executed a MOU on Sustainability planning efforts and delineated a list of activities demonstrating SBCTA/SBCOG's commitment to implementing the sustainability elements of the RTP/SCS. Although some project level specifics and programs in the MOU have changed over the years, the main goals and principles have remained and are still applicable and consistent with the latest 2020 RTP/SCS.

When it comes to San Bernardino County, the San Bernardino Countywide Vision is a centerpiece of our sustainability activities. Although the Vision was adopted by the County of San Bernardino and SBCTA/SBCOG in June, 2011, it still serves as the foundation for the all sustainability efforts in the County. Although the draft Connect SoCal (2020 RTP/SCS) provides an overview of some of these activities region wide, it is useful to provide a more specific status report on San Bernardino County's sustainability work. (https://www.gosbcta.com/wp-content/uploads/2019/09/SBCTA-Sustainability_FINAL_digital.pdf). Based on Table ES-3 Connect SoCal Goals, here are some examples of sustainability projects from SBCTA/SBCOG that align with the RTP/SCS.

Connect SoCal Goal #2 "Improve mobility, accessibility, reliability, and travel safety for people and goods."

Active Transportation Investments Countywide – Agencies are now engaged in delivering bicycle and pedestrian improvements made possible by over \$50 million in State Active Transportation Program (ATP) grants. SBCTA has recently updated its Active Transportation Plan to include a Safe Routes to School element, a Points of Interest element, and a Complete Streets element. A countywide sidewalk inventory project is underway.

Connect SoCal Goal #3 "Enhance the preservation, security, and resilience of the regional transportation system"

Climate Adaptation Partnership with Western Riverside COG – This plan has been initiated to address the potential effects of climate change in Riverside and San Bernardino counties and identify ways to work together to address the challenges. As a result, the Inland Empire has formed a Climate Collaborative consistent with SB 1072 to put policies identified in the Regional Climate Adaptation Plan.

Connect SoCal Goal #4 "Increase person and goods movement and travel choices within the transportation system."

The Redlands Passenger Rail Project – This is a 9-mile rail line between Redlands and downtown San Bernardino, to be operational in late 2021, using self-propelled trainsets. As part of this project, SBCTA will implement a zero emission passenger rail trainset, a first in North America.

Connect SoCal Goal #5 “Reduce greenhouse gas emissions and improve air quality.”

Countywide GHG Reduction Plan and EIR – This effort was completed in 2014 and is now being updated to address the State’s 2030 GHG reduction goals under SB 32. The Plan includes the State’s first and only certified PEIR for countywide GHGs and has facilitated adoption of local Climate Action Plans (CAPs).

Connect SoCal Goal #6 “Support healthy and equitable communities.”

Healthy Communities Best Practices Toolkit – The San Bernardino County Department of Public Health created a Strategic Plan for the implementation of Healthy Communities policies. The toolkit, a collaboration between SBCOG and the County, will contain sample policies, resolutions, processes, organizational structure, and lessons learned from agencies that have implemented health-related policies.

Connect SoCal Goal #8 “Leverage new transportation technologies and data-driven solutions that result in more efficient travel.”

Partnerships on Clean Freight – Using a federal DOE grant and state CEC grant, SBCTA partnered with Ryder to place over 200 natural gas fueled trucks into its leasing fleet in Southern California as well as a maintenance facility and two fueling facilities. We are currently working with the BYD, BNSF railroad, and Daylight Transportation to pilot battery electric drayage trucks at Intermodal Yards in San Bernardino and Los Angeles and a distribution facility in Fontana.

Connect SoCal Goal #10 “Promote conservation of natural and agricultural lands and restoration of critical habitats”

Habitat Conservation – San Bernardino County and SBCOG are collaborating on an effort to create a Regional Conservation Investment Strategy (RCIS) through the process established by the California Department of Fish and Wildlife under AB 2087.

Aside from the specific activities referenced in the MOU, it should be noted that SBCTA completed its Countywide Transportation Plan (CTP) in 2015 and is being updated to be consistent with the 2020 RTP/SCS. The CTP is built on a foundation of economic and environmental sustainability. It recognizes that mobility and smart land development are needed to sustain the economic growth and competitiveness necessary for survival within the global economy. This economic growth is needed, in turn, to fund the array of statewide and regional sustainability commitments. San Bernardino County must invest in all modes of transportation, including highways, to support its businesses and growing population.

Please visit SBCTA’s Sustainability page on our website at <https://www.gosbcta.com/planning-sustainability/?category=sustainability>, including our Sustainability Fact Sheet.

Attachment 2

Additional Comments on the Text of the RTP/SCS (Connect SoCal) Main RTP/SCS Report

- Page 18 - Figure 2.2 needs more explanation within the graphic itself. The Y-axis is not labeled. Are these thousands of jobs regionally? May be better presented as percentages of jobs subject to automation.
- Page 23, second paragraph under Transportation System – The paragraph references Exhibit 2.3, Existing Arterial System. The text refers to express lanes, while the graphic refers to Expressway/Parkway. Needs to be clarified. Also, what criteria were used for inclusion as an arterial? Was this the FHWA designation?
- Page 27, Exhibit 2.4 – Suggest that I-215 from SR-91 to I-15 be included in the map. Also, there are two intermodal facility dots shown in San Bernardino. Not clear what the second one is.
- Page 30 – Interesting graphic on mode of access to airports. Define “on-call.” Is that where TNCs are included? Please clarify.
- Page 31 – Grey text is hard to read in the electronic version. Needs more contrast.
- Page 37 – Graphic should say annually, for number of injuries and fatalities.
- Page 59, Under Progress Since 2016 – Refers to “Three roadway improvement/rehabilitation projects, including bridge improvement have already been programmed.” There have to be many more projects than that around the region. Referencing only three projects is very underwhelming. It would seem that a number of the “Progress Since 2016” sections could be improved.
- Page 61 – You may want to caveat the mileage-based user fee discussion, to be clear that no specific plans have been made to implement such a system at this time, and that implementation would need to occur on a statewide basis.
- Page 66 – Please re-orient the list of transit projects for San Bernardino from shorter term to longer term and please omit the Foothill/San Bernardino BRT from the list. That project is too long term. So the list would be in this order: Redlands Passenger Rail, West Valley Connector Phase 1, Gold Line Extension to Montclair, and Passenger Rail Service from San Bernardino Metrolink Line to Ontario Airport.
- Page 77 – I-15 Express Lane segment 5 – take out reference to High Desert Corridor and say “to north of Mojave River.” For long range projects like this, it would be adequate to round the costs off to the nearest million.
- Page 102, Figure 4.7 – If it is possible to add dash patterns to similar-color lines, that would be helpful in distinguishing the operators from one another.
- Page 103, Table 4.3 – Title should state that the revenue forecast covers both capital and operating/maintenance costs. The numbers would be very large for only capital costs, so clarifying that O&M costs are included would reduce the number of questions.
- Page 122 and throughout Table 5.1 – It is important to clearly distinguish when statistics include light duty vehicles only, versus all vehicles. For example, the GHG per capita targets for SB 375 purposes relate to light duty vehicles only. On page 122, the basis of the VMT data is unclear. It is clarified as light duty in Table 5.1, but should also be stated on page 122 and on Figure 5.1 as well. Same with daily minutes of delay. Is that person delay or vehicle delay, and which vehicle sectors are included? The definition of VMT is also critical to distinguish for SB 743 purposes, to avoid confusion. We did not

see where total VMT statistics are presented. Truck delay by facility type is presented, but we did not see truck VMT within the main body of the RTP/SCS or in the Goods Movement appendix. Also, we could not match the VMT data in the RTP/SCS with the VMT data in the PEIR. Perhaps the differences are because of the inclusion or exclusion of vehicle types. Please review these sections to make sure the references are always clearly explained.

9

Goods movement appendix

- Page 50 – Please add more truck volume data points in the Inland Empire. Volumes in the I.E. are not well represented, given the role of the IE in goods movement.
- Page 51 – See comments within the text of the letter on the bottleneck relief strategy. The likelihood and cost of fixing the bottlenecks should be factored into the bottleneck relief strategy, not just the sheer magnitude of delay. Some bottlenecks have massive delays, but there are practical and cost limitations to relieving that congestion.
- Page 61 – SBCTA supports the language in the first bullet regarding working with the federal government on a low NOx engine standard for heavy-duty trucks. We signed onto the ultra low-NOx petition several years ago, along with SCAQMD and CARB. The standards should be developed at the national level, given the amount of travel through San Bernardino County by out-of-state trucks. Having a California-only standard could disadvantage our businesses further and will not be as effective. California and our region should strive for a level playing field as part of our air quality strategy.
- Page 94 – The South Archibald grade separation is planned, not complete.

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Attachment 3

Comments on the Draft 2020 RTP/SCS Project List (note: costs are in \$1000s; current RTP entry was copied directly from Table 2 of Project List Appendix)

1. LOCAL HIGHWAY SAN BERNARDINO, COUNTY OF 200837 0 VISTA ROAD 0 0 VISTA ROAD GRADE SEPARATION-WIDEN 2-4 LANES AND CONSTRUCT GRADE SEPARATION (PA&ED ONLY) 2030 \$50,000 – **Comment: Change cost to \$4,000 (\$ in 1000s), since PA&ED only**
2. LOCAL HIGHWAY SAN BERNARDINO COUNTY 4120193 0 VARIOUS LOCATIONS VARIOUS TRAFFIC SIGNAL PROJECTS THROUGHOUT SAN BERNARDINO COUNTY 2023 \$519,912 – **Comment: should have a completion year of 2040; costs should be \$5,000.**
3. LOCAL HIGHWAY COLTON 4160046 0 MT VERNON I-10 EB RAMPS COOLEY DR WIDEN MT VERNON ACROSS UPRR AND SANTA ANA RIVER FROM 2 TO 4 LANES 2025 \$30,000 – **Comment: delete, because it is in FTIP as:**
 - a. SAN BERNARDINO STATE HIGHWAY 20190010 4120198 10 COLTON: MT. VERNON AVE BRIDGE WIDENING OVER I-10: WIDEN MT. VERNON BRIDGE STRUCTURE (3-4 LANES; 1 NEW SB LANE) TO ACCOMMODATE NEW DEDICATED TURN AND BIKE LANES, WIDEN MT. VERNON AVE (2-4 LANES) FROM I-10 EB OFF/ON-RAMPS TO APPROX. 300 FT SOUTH ALONG MT. VERNON; REALIGN MT. VERNON & E VALLEY BLVD INTERSECTION; RELOCATE WB ON-RAMP (REMAINS 1 LANE AT THE MAINLINE). \$53,869
4. STATE HIGHWAY SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA) 4120198 10 I-10 I-10 MT VERNON AVE I-10 @ MT VERNON AVE INTERCHANGE IMPROVEMENTS 2035 \$38,500 – **Comment: Delete, because it is in FTIP as:**
 - a. SAN BERNARDINO STATE HIGHWAY 20190010 4120198 10 COLTON: MT. VERNON AVE BRIDGE WIDENING OVER I-10: WIDEN MT. VERNON BRIDGE STRUCTURE (3-4 LANES; 1 NEW SB LANE) TO ACCOMMODATE NEW DEDICATED TURN AND BIKE LANES, WIDEN MT. VERNON AVE (2-4 LANES) FROM I-10 EB OFF/ON-RAMPS TO APPROX. 300 FT SOUTH ALONG MT. VERNON; REALIGN MT. VERNON & E VALLEY BLVD INTERSECTION; RELOCATE WB ON-RAMP (REMAINS 1 LANE AT THE MAINLINE). \$53,869
5. STATE HIGHWAY SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA) 4160004 10 I-10 I-10 GROVE AVE/4TH ST I-10 @ GROVE AVE/4TH ST NEW INTERCHANGE 2045 \$199,000– **Comment: Delete because it is in FTIP as:**
 - a. SAN BERNARDINO STATE HIGHWAY 2002160 2002160 10 I-10 AT GROVE AVE AND 4TH ST: CONSTRUCT NEW INTERCHANGE AT I-10 AND GROVE AVE; CLOSE EXISTING I-10/FOURTH ST INTERCHANGE; AND LOCAL STREET IMPROVEMENTS ALONG GROVE AVE (CHILD PROJECT IS 20171102). \$199,423
6. STATE HIGHWAY CALTRANS 4200S001 395 US-395 1.8 MI S/O DESERT FLOWER RD FARMINGTON RD WIDEN US-395 FROM 1.8 MI S/O DESERT FLOWER RD TO FAMINGTON RD 2025 \$459,978 – **Comment: change date to 2035**

7. STATE HIGHWAY SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY (SBCTA) 4M01043 215 I-215 I-215 MT VERNON/ WASHINGTON AVE I-215 @ MT. VERNON/WASHINGTON ST INTERCHANGE RECONSTRUCTION 2045 \$109,048 – **Comment: Delete, as it is duplicate of:**
 - a. LOCAL HIGHWAY CALTRANS 4160072 215 WASHINGTON I-215 WASHINGTON I-215 & WASHINGTON/MT. VERNON; REPLACEMENT BRIDGE PROJECT TO PROVIDE STANDARD VERTICAL AND HORIZONTAL CLEARANCES FOR THE ULTIMATE I-215 ROADWAY. 2023 \$29,252
8. STATE HIGHWAY SAN BERNARDINO ASSOCIATED GOVERNMENTS (SANBAG) 4M07007 210 SR-210 SR-210 BASELINE AVE SR-210 @ BASELINE AVE INTERCHANGE IMPROVEMENTS 2020 \$15,600– **Comment: Delete because it is in FTIP as:**
 - a. SAN BERNARDINO STATE HIGHWAY 201186 REG0701 210 AT SR-210/BASELINE IC: RECONSTRUCT/WIDEN BASE LINE BETWEEN CHURCH AVE AND BOULDER AVE FROM 4 TO 6 THROUGH LANES AND EXTEND LEFT TURN LANES, WIDEN RAMPS – WB EXIT 1 TO 3 LANES, WB AND EB ENTRANCES 1 TO 3 LANES INCLUDING HOV PREFERENTIAL LANES (EA 1C970) \$31,216
9. STATE HIGHWAY HESPERIA 4M07014 15 I-15 I-15 MOJAVE ST I-15 @ MOJAVE ST NEW INTERCHANGE 2040 \$45,000 – **Comment: Delete as it is no longer in the SBCTA Nexus Study, so can be deleted from RTP project list.**
10. RTP ID 4120219 Foothill/San Bernardino from San Manuel Casino to Kaiser Hospital (Sierra Ave. Fontana) – Full BRT 2045 – **Comment: Can be deleted, as this route is mostly covered by RTP ID 4120205. – Comment: Please change to 5th St/Baseline from San Manuel Casino to San Bernardino Transit Center – Express Bus 2045 - \$15,000.**



January 23, 2020

Via Email: 2020PEIR@scag.ca.gov

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Comments on the Draft Connect SoCal Plan 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy and associated Draft Programmatic Environmental Impact Report

Dear Mr. Ajise:

The San Joaquin Hills Transportation Agency and the Foothill/Eastern Transportation Corridor Agency (“TCA”) appreciates the opportunity to review and provide comments on the Draft Connect SoCal Plan 2020-2045 Regional Transportation Plan (“RTP”)/Sustainable Communities Strategy (“SCS”) and associated Draft Programmatic Environmental Impact Report (“PEIR”). TCA commends the Southern California Association of Governments (SCAG) staff and consultants for the tremendous amount of work and effort in putting these documents together. TCA also recognizes and supports the timely adoption of the RTP/SCS to enable the Southern California region to proceed with the planning and implementation of regionally significant transportation projects. Further, TCA recognizes that the SCS is particularly important for the region to meet its state-mandated greenhouse gas (GHG) emissions reduction targets for 2020 and 2035.

TCA supports the comments submitted by the Orange County Council of Governments (OCCOG) on behalf of Orange County jurisdictions, the Center for Demographic Research, the Orange County Transportation Authority, and other Orange County jurisdictions.

In addition, TCA submits the following comments to clarify the RTP/SCS Project List Technical Report and offer recommended clarification to the documents text.

DRAFT CONNECT SOCIAL PLAN

Transportation Network and Funding the Transportation System

The TCA are two joint-powers agencies formed in 1986 to plan, finance, construct and operate State Routes 73, 133, 241 and 261 (The Toll Roads), which constitute 20 percent of Orange County’s major thoroughfares (see attached Toll Road System Map). The Toll Roads were originally planned as freeways; however, due to a lack of state funding they had to be built as tolled roads. To finance the roads, toll revenue bonds were sold as the major funding source [private funds] and development impact fees have been assessed on new construction under Section 66484.3 of the California Government Code. Consistent with

the goals of AB 32 and SB 375, the Toll Road network helps to reduce GHG emissions that would otherwise be emitted by idling passenger cars and trucks on freeways and major arterials, by providing free-flow congestion relief. While these roads are a significant part of the major highway system in Orange County and the region and are, indeed, included in the core revenues from local sources (Highway Tolls), Figure 4.10, *Core Revenues, Local Sources, in Nominal Dollars* (page 105), Table 4.5 *Summary of Revenues* (page 108), Table 4.6.1 *FY2045 RTP/SCS Revenues, in Nominal Dollars, Billions* (page 112), they are not included in the discussion regarding transportation system (page 23), transportation demand management (page 64), transportation system management (page 64), highway and arterial network (page 73), regional express lane network (page 74) or paying our way forward (page 97). Nowhere in the document is the private sector funding contribution assumed for the plan described, although toll road widenings, expansions, and new tolled facilities that are privately funded are included in the plan and in the total cost of the plan. Focus in the Draft Connect SoCal Plan as well as the Draft PEIR is only on toll lanes and express/high occupancy toll lanes. Accurately describing the extent of private funding for highways is an important public disclosure, and an important element of the financial plan that relieves the burden on limited federal, state and local transportation funding.

2

Recommended Clarification

TCA requests that the language in the Draft Connect SoCal Plan and associated PEIR be expanded to appropriately describe the existing and planned inter-operable priced transportation network in the region, including Express Lanes, HOT lanes, and Toll Roads, specifically acknowledging the following points:

3

- Priced lanes provide flexibility and options as part of the congestion relief toolbox of measures designed to help meet sustainability and emission reduction goals related to SB 375 and other state and federal mandates.
- Priced facilities are an especially important tool for providing intra-county, inter-county and interregional capacity.
- The existing priced transportation network serves the locations where major employment and housing growth are projected to occur.
- Toll roads and express/HOT lanes charge users a fee for travel, but typically offer less congested traffic lanes than nearby freeways and roadways. Reduced congestion provides improved and more efficient mobility with fewer air pollutants and GHG emissions caused by congestion.
- The publicly owned TCA-operated Toll Road network in Orange County is designed to interrelate with transit service. The Toll Roads can accommodate Bus Rapid Transit and express bus service, and Toll Road medians are sized and reserved to provide the flexibility for future transit, if appropriate.
- Priced facilities such as the Orange County Toll Roads are privately funded. This ensures that these facilities can relieve congestion and associated air pollution and GHG emissions on parallel freeways and major arterials without further stressing limited state, federal and local transportation funding resources. In addition, user fees provide an economic incentive for cost-sharing that promotes ridesharing, which is beneficial to reduced criteria pollutants and GHG emissions reductions.
- The discussion should include that express lanes, HOT lanes and toll roads generate user fees that pay for construction and operation of their facilities.

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Page 73, Highways and Arterials Network

The Connect SoCal Plan should include toll roads in the description of projects included in this category. Orange County Toll Roads are not categorized as express or HOT lanes, but collect tolls as a means of insuring low-emission, free-flow capacity and funding the construction and operation of the facility. TCA-operated Toll roads integrate with express lane and HOT lane facilities via the common FasTrak technology that allows inter-operability and convenience for drivers.

Recommended Clarification

- Revise the text in the last sentence on page 73 to read, “Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll roads, toll lanes, and Express/HOT lanes. The complete list of projects can be found in the Project List Technical..”
- Add the SR 241/91 Express Lanes (HOT) Connector project (FTIP ID ORA111207/RTP ID 2T01135) to Exhibit 3.2 *Major Highway Projects*, Table 3.2 *Sample Highway Projects*, and Exhibit 3.3 *Planned Regional Express Lane Network*.
- The text under this section should discuss that all priced facilities in the SCAG region ensure inter-operability by using a common technology, FasTrak, to collect user fees.
- The discussion should include that express lanes, HOT lanes and toll roads generate user fees that pay for construction and operation of their facilities.
- The text should establish the congestion reducing goal of priced transportation, and the associated criteria pollutants and GHG emissions benefits of providing free flow capacity that avoids emissions generated by idling. In addition, user fees provide an economic incentive for cost-sharing that promotes ridesharing which is beneficial to reduced criteria and GHG emissions reductions.

10

PROJECT LIST TECHNICAL REPORT

Page 66, Table 1: FTIP Projects, Project 10254

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost (\$1,000's)
ORANGE	STATE HIGHWAY	10254	10254	73	SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC – SR 73). 15 MI TOLL RD BETWEEN 1-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020 2022 .	\$351,188

Recommended Clarification

- In Table 1, we request that the completion date for Project 10254 be clarified as 2022, consistent with the discussions between TCA, OCTA and SCAG.

Page 298, Table 3: Strategic Projects, RTP ID S2160011

County	System	RTP ID	Route #	Route Name	From	TO	Description	Lead Agency
ORANGE	STATE HIGHWAY	S2160011	73	SR-73/GL ENWOOD			INTERCHANGE IMPROVEMENT (PHASE 2 & 3)	TCA

Recommended Clarification

TCA’s Project 10254 description (Route 73/ San Joaquin Hills Transportation Corridor) is correctly listed in Table 1 *FTIP Projects*; however, Table 3 *Strategic Projects* also lists specific components of this project (the SR 73/ Glenwood Interchange Improvement (Phase 2 & 3)) as a separate TCA project with a unique RTP ID number (S2160011). This reference and project should be removed as it is part of the parent Project 10254.

Page 67, Table 1: FTIP Projects, Project ORA050, ORA051 and ORA011207

County	System	FTIP ID	RTP ID	Route #	Description	Project Cost (\$1,000’s)
ORANGE	STATE HIGHWAY	ORA050	ORA050	241	EASTERN TRANSPORTATION CORRIDOR (ETC-SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133, CONSISTENT WITH \$631,902 SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020 <u>2022</u> .	\$631,902
ORANGE	STATE HIGHWAY	ORA051	ORA051	241	FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU \$269,045 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & A UX LANES BY 2020 <u>2022</u> .	\$269,045
ORANGE	STATE HIGHWAY	ORA111207	2T01135	241	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PAED PHASE.	\$33,728

Recommended Clarification

- In Table 1, we request that the completion date for Projects ORA050, ORA051, and ORA111207 be clarified as 2022, consistent with the discussions between TCA, OCTA and SCAG.

Page 297, Table 3: Strategic Projects, RTP ID SORA052

County	System	RTP ID	Route #	Route Name	From	TO	Description	Lead Agency
ORANGE	LOCAL STATE HIGHWAY	SOR A052	241	SR 241	Oso Pkwy	I-5	FOOTHILL TRANSPORTATION CORRIDOR-SOUTH — OSO PKWY TO I-5 (SANDIEGO).	TCA

Recommended Clarification

- In Table 3, we request that Project ORA052 be classified as a “State Highway” system consistent with the classification of the TCA Toll Road network.

Overall, TCA’s project descriptions in Table 1 *FTIP Projects*, for projects ORA050, ORA051, ORA111207, 10254 and Table 3 *Strategic Projects*, for project ORA052 are correctly listed, as of the current FTIP. However, for ORA050, ORA051 and 10254 TCA recently submitted to OCTA a revision to these projects showing that TCA has met its original TCM commitments for the TCA Corridors. The revised projects highlighting the TCA strategic projects have been submitted to SCAG for review.

TRANSPORTATION FINANCE TECHNICAL REPORT

Page 2, Financial Plan, Introduction

The draft document states that “Our region has successfully implemented toll systems in the past with the Transportation Corridor Agencies’ network of privately financed toll roads and express lanes along interstate 10, interstate 110 and State Route 91, including the most recent extension into Riverside County.” However, the statement needs to clarify the financial planning importance of privately funded toll facilities.

Recommended Clarification

Priced transportation facilities also provide the opportunity for financial innovation. The Orange County toll roads (SR 73, SR 133, SR 241, and SR 261) utilize private funds. They provide congestion relief and associated air pollution and GHG emissions reduction without further stressing limited federal, state, and local transportation funding.

Page 29, Highway Tolls

Recommended Clarification

Under Highway Tolls Description we request the following revisions:
 “TCA consists of two separate government entities—the San Joaquin Hills Transportation Corridor **Agency Agencies** (SJHTCA), which oversees the San Joaquin Hills (State Route 73) Toll Road, and the Foothill/Eastern Transportation Corridor **Agency Agencies** (F/ETCA), which oversees the Foothill (State Route 241) and Eastern (State Route 241, State Route 261, and State Route 133) Toll Roads.”

TRANSPORTATION CONFORMITY TECHNICAL REPORT

Page 8, Highway Networks

The discussion on the coding of the region's freeway system specifically mentions express lanes, toll lanes and HOT lanes, but not toll facilities such as existing Toll Roads SR 73, SR 241, SR 133 and SR 261 in Orange County.

Recommended Clarification

- Revise text under this section to include toll roads, "Include detailed coding of the region's freeway system (mixed-flow lane, auxiliary lane, HOV lane, HOT lane, toll lane, and truck lane, toll roads, etc.) as well as Express ways arterials, major and minor collectors.

Page 20, Toll Roads

The discussion on Toll Roads states that, "There were approximately 325 lane miles of toll roads in 2016, increasing to about 1,855 toll/HOT lanes in 2045. This includes a regional Express Lane network (TABLE 8) that would build upon the success of the 91 Express Lanes and Transportation Corridor Agencies (TCA) Toll Roads in Orange County and two demonstration projects in Los Angeles County." However, none of the TCA operated Toll Roads are included in Table 8.

Recommended Clarification

- Table 8 should be retitled appropriately to include "Express Lane, HOT Lane and Toll Road Networks." This change should also be made in the main RTP/SCS document.
- TCA's facilities should be added to Table 8 as tolled facilities and the effect of the toll charges on these facilities should be incorporated into the highway assignment procedure.

TCA thanks you in anticipation of your written responses to these comments. We look forward to the amendments in the final 2020-2045 RTP/SCS and associated Draft PEIR to incorporate the recommended changes. Should you have any questions or require any clarification regarding these comments, please feel free to contact Ms. Valarie McFall, Chief Environmental Planning Officer, at 949.754.3475 or via email at vmcfall@thetollroads.com.

Sincerely,



Michael A. Kraman
Chief Executive Officer

Attachments

Cc: Sarah Jepsen, SCAG
Ping Chang, SCAG
Valarie McFall, TCA
TCA Board of Directors

10

11

ATTACHMENT: THE TCA TOLL ROAD SYSTEM





COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION

LOC-1

"Parks Make Life Better!"

John Wicker, Director

Norma E. Garcia, Chief Deputy Director

January 16, 2020

Mr. Roland Ok
SCAG Main Office
900 Wilshire Boulevard, 16th Floor
Los Angeles, CA 90017

Dear Mr. Ok:

**DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT
2020-2045 REGIONAL TRANSPORTATION PLAN/
SUSTAINABLE COMMUNITIES STRATEGY (CONNECT SOCIAL PLAN)**

Thank you for the opportunity to review and comment on the Draft Program Environmental Impact Report (PEIR) for the Connect SoCal Plan. The Los Angeles County Department of Parks and Recreation (DPR) has reviewed the PEIR and offers the following comments and suggested edits:

1

General Comments:

Los Angeles Countywide Parks and Recreation Needs Assessment (2016)

The PEIR should include a discussion of the Los Angeles Countywide Parks and Recreation Needs Assessment, and incorporate relevant data and recommendations from the final report. Adopted by the Board of Supervisors on July 5, 2016, the Countywide Parks Needs Assessment was a historic and significant undertaking to engage all communities within Los Angeles County in a collaborative process to gather data and input for future decision-making on parks and recreation. The primary goal of the Parks Needs Assessment was to quantify the magnitude of need for parks and recreational facilities, and determine the potential costs of meeting that need. This goal has been accomplished, as evidenced by the final report which uses a transparent, best-practices approach to evaluate park and recreation needs, and is the product of an engagement process that involved the public, cities, unincorporated communities, community-based organizations, and other stakeholders. Please access the Parks Needs Assessment at this link: <http://lacountyparkneeds.org/>

2

Transit to Parks Strategic Plan (2019)

The PEIR should include a discussion of Metro's Transit to Parks Strategic Plan and incorporate relevant data and recommendations from the Plan. The Strategic Plan presents a systematic vision for increasing access to parks and open space countywide.

3

Mr. Roland Ok
 January 16, 2020
 Page 2

The goal is to find targeted, holistic ways to increase access to parks and open spaces, especially for communities of need. These communities, especially those that are not within walking distance or without convenient public transit to a park, are the focus of the Plan. Expanding access is a key priority for the region, as demonstrated in the Los Angeles Countywide Parks Needs Assessment, which highlights the lack of park and open space access in communities across the county, particularly for lower income, disadvantaged residents. Please access the Transit to Parks Strategic Plan at this link: <https://www.metro.net/projects/transit-parks/>

3

3.16 Parks and Recreation, page 3.16-9

Please revise the last sentence as follows: "~~The Los Angeles County General Plan has established a standard of 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population in Los Angeles County. According to the General Plan (2015), the County has a substantial deficit in local parkland, providing approximately 0.6 acres of local parkland per 1,000 unincorporated residents but 7.02 acres of regional parkland per 1,000 residents (total), which is above the regional standard. According to the Los Angeles County Parks Needs Assessment (2016), there are 3.3 acres of local parkland per 1,000 residents, which is less than the 4.0 acres per 1,000 goal in the Los Angeles County General Plan. There are 86.2 acres of regional open space and natural areas per 1,000 people, which highly exceeds the goal of 6 acres of regional parkland per 1,000 in the Los Angeles County General Plan.~~"

4

3.16 Parks and Recreation, page 3.16-10

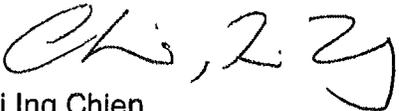
Please correct the number as follows: "Los Angeles County has ~~177~~ 181 County parks and 24 state parks..."

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Thank you for your consideration of our comments. If you have any questions, please contact me at (626) 588-5317 or by email at jchien@parks.lacounty.gov.

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Sincerely,



Jui Ing Chien
 Park Planner

JIC:ev

c: Parks and Recreation (C. Lau)



Memorandum

County of Ventura • Resource Management Agency • Planning Division
800 S. Victoria Avenue, Ventura, CA 93009-1740 • (805) 654-2478 • ventura.org/rma/planning

DATE: January 22, 2020
TO: Southern California Association of Governments
FROM: Abigail Convery, Ventura County Planning Division
SUBJECT: Draft Program Environment Impact Report (PEIR) for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). RMA 19-001-1.

I have reviewed the Southern California Association of Governments (SCAG) Draft Program Environmental Impact Report (PEIR) for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RMA 19-001-1), which covers areas in unincorporated Ventura County.

1

Biological Resource Analysis

1. Ventura County Locally Important Species and Communities

The biological resource assessment associated with the Draft EIR did not include language which would address impacts on the County’s Locally Important Species or communities, nor were they considered “special status species.” The potential to occur and potential impacts to Ventura County Locally Important Species must be evaluated and mapped. For a complete listing of Locally Important Species, please see the following link: <https://vcrma.org/ceqa-implementation-and-initial-study-assessment-guidelines> .

2

Impacts to Locally Important Communities (e.g., oak woodlands and California black walnut woodland) should be evaluated in the EIR. The Ventura County General Plan defines a Locally Important Community as “a plant or animal community that is considered by qualified biologists to be a quality example characteristic of or unique to the County or region.” The EIR should evaluate direct and indirect (i.e., dust, diminished water supply, etc.) impacts to Locally Important Communities.

2. Ventura County Initial Study Assessment Guidelines

Project level mitigation measures identified in the draft EIR did not clarify whether projects occurring in the County would be evaluated in accordance with Ventura County’s adopted CEQA environmental thresholds of significance. Projects that occur within the unincorporated County should be assessed using the County’s CEQA thresholds of significance which are set forth in the Ventura County Initial Study

3

Assessment Guidelines (April 26, 2011), available online at:
http://www.ventura.org/rma/planning/pdf/ceqa/current_ISAG.pdf

The Draft EIR should include or reference information and protocols required pursuant to the "Ventura County Planning Division Standards for Initial Study Biological Assessments" (October 9, 2012), which is available online at:
<http://www.ventura.org/rma/planning/conservation/bio-report-procedure.html>

3

3. Ventura County General Plan

The Draft EIR should analyze the proposed project with respect to its consistency with the Ventura County General Plan Goals, Policies and Programs (2011) environmental goals and policies for biological resources. Several policies in the General Plan support the protection of, and require an evaluation and mitigation of significant impacts to, biological resources for streams and wetlands, such as:

- A 100-foot setback is required from these resources for all discretionary development (Policy 1.5.2-4);
- Discretionary projects must evaluate biological impacts within 300 feet of waters and wetlands (Policy 1.5.2- 3); and
- Unavoidable significant impacts to wetlands or streams cannot be found acceptable with the adoption of a Statement of Overriding Considerations.

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4. Comments on Mitigation Measures Proposed

The biological mitigation measures proposed for the Draft PEIR were very thorough. Planning Division staff has a few minor comments as follows:

- **PPM BIO 1 (b).** Where avoidance is determined to be infeasible, the project level mitigation measures define various compensatory mitigation approaches that could be used by a project. For projects occurring within Ventura County, such replacement mitigation should occur as close as possible to the impact site and within the County when possible.
- **PPM BIO 1 (d).** Temporary access roads and staging areas are stated to not be located in non-native habitat. Such facilities and infrastructure should not be located in native habitat.
- **PPM BIO 4 (e).** The County requires a buffer zone of 300 feet around occupied bird nests afforded protection pursuant to the Migratory Bird Treaty Act.
- **PPM BIO 5 (m).** To mitigate or improve the connectivity of wildlife habitats within the project area, the proposed mitigation measure discusses the potential to install wildlife crossings. The PEIR should also consider project areas that have existing infrastructure that may be retrofitted for wildlife crossings for the purpose of mitigation.

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Thank you for the opportunity to comment on the Draft PEIR. If you have questions regarding the information set forth in this memo, please contact Abigail Convery at 805-654-2489 or via email at Abigail.Convery@ventura.org.

6

January 24, 2020

Mr. Roland Ok, Senior Regional Planner
 Southern California Association of Governments
 900 Wilshire Blvd, Suite 1700
 Los Angeles, California 90017

**Subject: Draft Program Environmental Impact Report for Connect SoCal (2020-2045
 Regional Transportation Plan/Sustainable Communities Strategy)**

Dear Mr. Ok:

Thank you for the opportunity to provide input and comments on the Draft Program Environmental Impact Report for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). The Long Range Section of the Ventura County Planning Division reviewed the Draft Program EIR for the proposed project and provides the following response:

1. **Saticoy Area Plan.** In September 2015, the Ventura County Board of Supervisors adopted a comprehensive update to the Saticoy Area Plan. The Saticoy community is defined as a "severely economically disadvantaged community" and the Saticoy Area Plan has a 20-year time horizon that extends from 2015 to 2035. The Mobility Element within the Saticoy Area Plan identifies implementation program MOB-P2 which prioritizes the widening/re-stripping of SR 118 from Vineyard Avenue to Darling Road.

On January 28, 2016, and February 22, 2019, the Long Range Planning Section submitted comment letters to SCAG in response to Draft RTP/SCS and environmental documents. These letters provided detailed background emphasizing the need for regional cooperation for the construction of these improvements. As such, we respectfully request that the re-stripping and any other critical intersection improvements in the Saticoy area be included in the RTP/SCS or FTIP Projects list as necessary, to make this a priority project.

2. **El Rio/Del Norte Area Plan.** The improvements and project scope identified in the environmental document cover an area of unincorporated Ventura County known as El Rio/Del Norte Area Plan. In the Land Use Section of the area plan, policies have been adopted for land use compatibility. Specifically, the following policies have a potential to be impacted:

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- a. Policy 3.2.2(4) states "Discretionary, non-agricultural land uses adjacent to Agricultural designated land shall be required to establish appropriate buffers as determined by the Agricultural Department."
- b. Goal 4.1.1 Transportation/Circulation:
 1. Ensure adequate circulation and transportation system to serve the needs of the existing and future residents of the El Rio/Del Norte area.
 2. Plan for safe pedestrian and bicycle pathways throughout the El Rio/Del Norte area;
 3. Encourage the expansion of bus service to serve the El Rio/Del Norte area.

The Draft Program EIR discusses significant and unavoidable impacts in the Land Use section. **Impact LU-2** "Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect," results in a significant and unavoidable impact.

At the project level, Long Range Planning staff concurs with **PMM LU-2**, "When an inconsistency with the adopted general plan policy or land use regulation (adopted for the purpose of avoiding or mitigating an impact) is identified modify the transportation or land use project to eliminate the conflict; or, determine if the environmental, social, economic, and engineering benefits of the project warrant an amendment to the general plan or land use regulation."

3. **Solid Waste.** Table 3.19.1-1 Solid Waste Tonnage within the SCAG Region (2018) identifies both San Bernardino County and Ventura County as having a total tonnage of 1,908,462 for 2018. The linked source of CalRecycle Landfill Tonnage Reports shows Ventura County as having a total tonnage of 1,904,702 for 2018. Although the Total Tonnage figure of 19,550,712 (for the SCAG Region) captures the correct solid waste tonnage figure, the section should be reviewed to ensure accurate citation of solid waste data is used throughout the document.
4. **Wastewater and Storm Drainage Facilities.** The County of Ventura has adopted a Habitat Connectivity and Wildlife Corridor Ordinance and identifies bridges and culverts as wildlife crossing structures (section 8109-4.8.3.4 of the Ventura County Non-Coastal Zoning Ordinance). As such, planning staff concurs with the project level mitigation measure of **PMM USWW-1** "...During the design and CEQA review of individual future projects, implementing agencies and project sponsors shall determine whether sufficient wastewater capacity exists for the proposed projects. There CEQA determinations must ensure that the proposed development can be served by its existing or planned treatment capacity. If adequate capacity does not exist, project sponsors shall coordinate with the relevant service provider to ensure that adequate public services and utilities could accommodate the increased demand, and if not, infrastructure improvements for the appropriate public service or utility

shall be identified in each project's CEQA documentation. The relevant public service provider or utility shall be responsible for undertaking project level-review as necessary to provide CEQA clearance for new facilities."

9

If the project results in new or retrofitted infrastructure improvements, the Ventura County Planning Division shall be consulted to ensure the improvements are consistent with the County's zoning ordinance and the adopted Habitat Connectivity and Wildlife Corridor standards. Early consultation with the Planning Division during the project level design phase is encouraged. This request is intended to help streamline the project and prevent revisions to plans or new mitigation measures necessary to comply with the Habitat Connectivity and Wildlife Corridor regulatory standards.

10

Thank you again for the opportunity to comment. Should you have any questions about the contents of this letter, please contact me at 805-654-3327 or via email at linda.blackburn@ventura.org

Sincerely,



Linda Blackburn, Senior Planner
Long Range Planning Section
Ventura County Planning Division

Attachments: January 28, 2016 Environmental Document Review, RMA Ref. #15-024, Draft 2016 RTP/SCS and Program EIR comment letter
February 22, 2019, Environmental Document Review, RMA Ref. #19-001, Notice of Preparation of a Program Environmental Impact Report (PEIR) for Connect SoCal

RESOURCE MANAGEMENT AGENCY

county of ventura

Planning Division

Kimberly L. Prillhart
Director

February 22, 2019

Mr. Roland Ok, Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, California 90017

Subject: Notice of Preparation of a Program Environmental Impact Report (PEIR) for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)(RTS/SCS)

Dear Mr. Ok:

Thank you for the opportunity to provide input and comments on the Notice of Preparation of a PEIR for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy). The Long Range Planning Section of the Ventura County Planning Division reviewed the Notice of Preparation for the proposed project and provides the following response:

1. **Saticoy Area Plan.** In September 2015, the Ventura County Board of Supervisors adopted a comprehensive update to the Saticoy Area Plan. The Saticoy community is defined as a "severely economically disadvantaged community" and the Saticoy Area Plan has a 20-year time horizon that extends from 2015 to 2035. The Mobility Element within the Saticoy Area Plan identifies implementation program MOB-P2 which prioritizes the re-striping of SR 118 from Vineyard Avenue to Darling Road.

On January 28, 2016, the Long Range Planning Section submitted a comment letter to Southern California Association of Governments (SCAG) in response to Draft 2016 RTP/SCS and PEIR. This letter provided detailed background emphasizing the need for regional cooperation for the construction of these improvements. As such, we respectfully request that the re-striping and any other critical intersection improvements in the Saticoy area be included in the RTP/SCS or FTIP Projects list as necessary, to make this a priority project.

2. **Bottom-up Local Growth and Land Use Input Process.** On October 1, 2018 and December 14, 2018, the Ventura County Planning Division provided detailed and comprehensive data and analysis in response to the request for local input. We request that this input be considered as part of the preparation of the environmental document.
3. **Population Growth and Housing Projections.** As part of the scoping for the environmental analysis in the PEIR, we request special consideration be given to protection of farmland and

800 South Victoria Avenue, L# 1740, Ventura, CA 93009 (805) 654-2481 Fax (805) 654-2509



that contaminated sites such as Santa Susana Field Laboratory (SSFL) be excluded from consideration of potential housing sites.

Thank you again for the opportunity to comment. Should you have any questions about the contents of this letter, please contact me at 805-654-3327 or via email at linda.blackburn@ventura.org

Sincerely,



Linda Blackburn, Senior Planner
Long Range Planning Section
Ventura County Planning Division

Attachments: Environmental Document Review, RMA Ref. #15-024, Draft 2016 RTP/SCS and Program EIR comment letter dated January 28, 2016



Memorandum

County of Ventura • Resource Management Agency • Planning Division
800 S. Victoria Avenue, Ventura, CA 93009-1740 • (805) 654-2478 • ventura.org/rma/planning

DATE: January 28, 2016

TO: Laura Hocking, RMA/Planning Technician

FROM: Kari Finley, Senior Planner

SUBJECT: Environmental Document Review, RMA Ref. #15-024
2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)

We would like to thank the Southern California Association of Governments (SCAG) for the opportunity to review the Draft 2016 RTP/SCS and Program EIR. This memo provides comments on the Draft 2016 RTP/SCS from the Ventura County Planning Division for consideration by SCAG.

In September 2015, the Ventura County Board of Supervisors adopted a comprehensive update to the Saticoy Area Plan. The Saticoy community is defined as a "severely economically disadvantaged community". The Saticoy Area Plan has a 20-year time horizon that extends from 2015 to 2035. Within the Saticoy Area Plan, project objectives are called "guiding principles" that must be used when evaluating future Area Plan amendments. The four guiding principles developed for the Saticoy Area Plan update 1) sustainable development that supports a healthy community, 2) economic revitalization, 3) improved housing opportunities and, 4) improved infrastructure systems. The Area Plan update was primarily funded through a combination of Compass Blueprint Program Grant and the Strategic Growth Council Sustainable Communities Planning Grant Program. Significant planning efforts were focused on reducing vehicle miles travelled.

One of the unavoidable, significant impacts that was identified in the Saticoy Area Plan Program EIR, includes traffic impacts on State Route 118 (SR118) in the Saticoy Community. One potential mitigation measure that was identified includes the widening/re-striping of SR118 in the Saticoy community (e.g., generally between Vineyard Avenue to Darling Road). Although the Board of Supervisors adopted a statement of overriding considerations for this impact, the following implementation program (highlight added) was included in the Area Plan to help mitigate the impact in the future:

No.	Program Description	Responsibility	Priority	Timeframe
MOBILITY ELEMENT				
MOB-P2	Reclassify Portion of SR 118: To mitigate significant project and cumulative traffic impacts on SR 118 between Vineyard Avenue and Darling Road, the County should review and process a General Plan Amendment that would reclassify that segment of SR 118 from 4 to 6 lanes on the Regional Road Network. The road reclassification should be incorporated into the next General Plan Update, tentatively scheduled for completion in 2020. Finally, the County shall work with VCTC and Caltrans to reprioritize the re-striping of SR 118 from Vineyard Avenue to Darling Road on the Ventura County Congestion Management Plan and the Caltrans list of projects. Although the re-striping project is currently listed in the Congestion Management Plan, the prioritization and timing for construction should be modified to occur within the 20-year horizon of the Saticoy Area Plan.	PWA/ Transportation; RMA/Planning; VCTC; Caltrans; City of Ventura	A	0-5 years

As indicated in the adopted Saticoy Area Plan program, it is critical for implementation of the recently adopted Saticoy Area Plan and future development in the Saticoy community that the re-striping project be included as a prioritized project in the 2016 RTP/SCS (FTIP Projects). The Saticoy Area Plan guiding principles are consistent with the RTP/SCS overarching strategy that calls for “more compact communities in existing urban areas”. The Saticoy Area Plan includes a land use plan with more compact development and improved mobility in an existing urban area. Peak-hour traffic impacts are already significant in this area and will impede future revitalization of this disadvantaged community if improvements to SR118 are not constructed.

As such, we respectfully request that the re-striping and any other critical intersection improvements in the Saticoy area be included in the RTP/SCS or FTIP Projects list as necessary, to make this a priority project. If you have any questions concerning these comments, you may contact Kari Finley at kari.finley@ventura.org or 805/654-3327.



WATERSHED PROTECTION
WATERSHED PLANNING AND PERMITS DIVISION
800 South Victoria Avenue, Ventura, California 93009
Sergio Vargas, Deputy Director – (805) 650-4077

M E M O R A N D U M

DATE: December 6, 2019
TO: Anthony Ciuffetelli, RMA Planner
County of Ventura
FROM: Sergio Vargas, Deputy Director *S.V.*
SUBJECT: RMA19-001 NOP of PEIR 2020-2045
Watershed Protection District Project Number: WC2019-0008

Pursuant to your request dated November 18, 2019, this office has reviewed the submitted materials and provides the following comments.

PROJECT LOCATION:

The SCAG region consists of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), and 191 cities (Figure 1, *SCAG Region*). To the north of the SCAG region are the counties of Kern and Inyo; to the east is State of Nevada and State of Arizona; to the south is the county of San Diego; and to the northwest is the Pacific Ocean. The SCAG region also consists of 15 sub-regional entities that serve as partners in the regional planning process

PROJECT DESCRIPTION:

Pursuant to federal and state planning requirements, SCAG updates and adopts a long-range regional transportation plan every four years. SCAG's last Plan was adopted in 2016 and an updated Plan is required to be adopted by April 2020.

Connect SoCal will outline the region's goals and policies for meeting current and future mobility needs, provide a foundation for transportation decisions by local, regional and state officials that are ultimately aimed at achieving a coordinated and balanced transportation system. Connect SoCal will also identify the region's transportation needs and issues, recommended actions, programs, and a list of projects to address the needs consistent with adopted regional policies and goals, and document the financial resources needed to implement Connect SoCal. It is important to note that SCAG does not implement individual projects in the RTP, as they will be implemented by local and state jurisdictions, and other agencies.

COMMENTS:

For each specific project considered, the environmental impacts for three areas of concern must be considered.

Impacts to Watershed Protection District Facilities and Jurisdictional Channels:

Each project analyzed under the proposed program must consider the impacts to facilities owned or under the jurisdiction of the Ventura County Watershed Protection District. Any projects in, on, over, under, or across a District jurisdictional channel or within District right-of-way would require a permit from the Ventura County Watershed Protection District consistent with District policy and Ordinance WP-2.

2

In planning future projects from a programmatic standpoint. The environmental documents should include a requirement that each project under the program must consider current and future flows for any projects that cross redline channels or other major waterways.

Hydraulic Hazards FEMA:

Each project analyzed under the proposed program must consider if the project is located in a special flood hazard area (SFHA) shown on either the effective or preliminary flood hazard mapping as prepared by the Federal Emergency Management Agency (FEMA). Project considered within the SFHA must obtain a permit from the Ventura County Public Works Agency and meet project specific requirements to mitigate impacts from flooding.

3

Costal Hazards and Sea Level Rise:

If a project is proposed in a Coastal Zone costal hazards and the impacts sea level rise must to be considered consistent with the California Coastal Commission and the Ventura County General Plan Policies.

4

END OF TEXT

If you have any questions, please feel free to contact Nathaniel Summerville by email at Nathaniel.Summerville@ventura.org or by phone at (805) 477-1967.



CITY OF COSTA MESA

P.O. BOX 1200 • 77 FAIR DRIVE • CALIFORNIA 92628-1200

LOC-4

January 24, 2020

Southern California Association of Governments
Connect SoCal Team
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Connect SoCal Team:

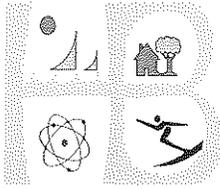
The City of Costa Mesa appreciates the time and effort undertaken by the Southern California Association of Governments (SCAG) staff in its efforts to develop a RTP/SCS of our large and diverse metropolitan planning area. The City of Costa Mesa remains committed to doing its fair share in addressing regional issues and appreciate the comment and review period provided by SCAG for the Connect SoCal Plan and its associated PEIR.

The City would like to express its support of recommendations and comments submitted by the Orange County Council of Governments, Orange County Transportation Authority, and Center for Demographic Research. We strongly recommend that all comments and concerns from these bodies be implemented into the Connect SoCal Plan and the associated PEIR.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Curtis".

Barry Curtis, AICP
Director of Economic and Development Services



City of Huntington Beach

2000 MAIN STREET

CALIFORNIA 92648

DEPARTMENT OF COMMUNITY DEVELOPMENT

Planning Division

714.536.5271

Code Enforcement Division

714.375.5155

Building Division

714.536.5241

January 23, 2020

Draft Connect SoCal PEIR Comments

Attn: Roland Ok

Southern California Association of Governments

900 Wilshire Blvd., Ste. 1700

Los Angeles, CA 90017

Submitted via email to: 2020PEIR@scag.ca.gov

RE: CITY OF HUNTINGTON BEACH DRAFT CONNECT SOCIAL AND PEIR COMMENT LETTER

Dear Mr. Ok,

Thank you for the opportunity to submit comments on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG’s public outreach efforts for this process and offers the following comments and concerns for your consideration.

1

High Quality Transit Areas (HQTAs)

HQTAs are defined as “corridors that have at least a fifteen minute headway (time in between the next scheduled service) during peak hours bus service.” According to RTP/SCS maps, all of Beach Boulevard within the City of Huntington Beach is defined as a HQTA. However, based on the October 13, 2019 Orange County Transportation Authority (OCTA) Bus Schedule¹, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. Route 29 services Beach Boulevard from the City of La Habra to PCH in Huntington Beach. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1st Street (not a stop on Beach Boulevard) traveling southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part of any route for this stop. It must also be noted that OCTA eliminated Route 211 in October 2019, which serviced Huntington Beach to Irvine (a major Orange County job center) due to low ridership.

2

¹ OCTA Bus Book <http://www.octa.net/ebusbook/CompleteBusBook.pdf>

Further, OCTA's 2018 Long Range Transportation Plan (LRTP)² includes Figure 4.1 – *Local, Community, and Bravo! Final Route Recommendations*. This figure recommends that Route 29 receive a reduction in frequency of service. This will add further delay to the 19-25 minute average peak hour headway service times on Beach Boulevard.

2

The Connect SoCal Plan and PEIR must utilize practical application of HQTAs as they operate and are planned for in order to implement the statute objectives of the RTP/SCS, including promoting an improved intraregional relationship between jobs and housing. The City of Huntington Beach recommends revising the HQTAs throughout Connect SoCal and the PEIR to accurately reflect available data regarding actual bus service and planned bus service on Beach Boulevard. Based on SCAG's definition of a HQTA, the entire length of Beach Boulevard in Huntington Beach does not qualify as a HQTA and must be adjusted accordingly.

The Connect SoCal Plan and PEIR also include other transportation related errors in Orange County, as identified by comments made by OCTA. The City of Huntington Beach expresses support for OCTA's comments as they pertain to errors and inconsistencies between the existing and planned Orange County transportation network and the RTP/SCS and PEIR. For example, the OCTA Board has not approved conversion from HOV to tolled express lane for SR-55, SR-73, I-605, or north of I-605 on I-405 as depicted in the proposed regional express lanes network. The potential regional express lane network is currently subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility. Additionally, Connect SoCal regional strategies rely on improvements beyond the projects submitted by OCTA, and implementation of the strategies is subject to availability of new revenue sources, necessary project development, and review processes by the implementing agencies.

3

RHNA Growth Exceeds General Plan Growth

Section 3.14 – Population and Housing of the Connect SoCal PEIR includes four guiding principles related to Growth Forecasts approved by SCAG's Regional Council on August 1, 2019:

Principle #1: The draft plan forecast for Connect SoCal shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the employment, population and household growth projections derived from local input and previously reviewed and approved by SCAG's local jurisdictions. The draft plan growth forecast maintains these projected jurisdictional growth totals, **meaning further growth is not reallocated from one local jurisdiction to another.**

4

Principle #2: The draft plan forecast at the Transportation Analysis Zone (TAZ) level is **controlled to be within the density ranges of local general plans or input received from local jurisdictional** in this most recent round of review.

² OCTA Long Range Transportation Plan, Figure 4.1 <http://www.octa.net/pdf/OCTALRTP111618FINAL.pdf>

Principle #3: For the purpose of determining consistency for California Environmental Quality Act (CEQA) streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan.

Principle #4: TAZ level data or any data at a geography smaller than the jurisdiction is included in the draft plan forecast only to conduct the required modeling analytical work and is therefore, only advisory and non-binding as SCAG's sub-jurisdictional forecasts are not formally adopted as part of the Plan.

The SCAG RHNA methodology is inconsistent with Principle #1 and #2. The currently proposed draft 6th Cycle RHNA methodology reallocates "residual" existing need across jurisdictions within the same county. The reallocation is assigned to jurisdictions based on transit accessibility (50%) and job accessibility (50%), and excludes Disadvantaged Community jurisdictions which have over 50% of their populations in very low resource areas using California Tax Credit Allocation Committee (TCAC)/HCD Opportunity Indices.

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Further, the cumulative impacts of the reallocation, projected need, and existing need result in a total RHNA that exceeds 1.0368 times planned household growth from the SCAG region³. While 1.0368 is the overall exceeded household growth in the region, each jurisdiction may be given a RHNA allocation that exceeds their General Plan growth even further as a result of the reallocated "residual" existing need calculation.

The PEIR also states that although the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process. The PEIR does not provide any meaningful analysis or supporting evidence to demonstrate how this will be accomplished. The currently proposed draft 6th Cycle RHNA methodology which includes reallocated "residual" need and growth exceeding SCAG local jurisdiction General Plan forecasts is not consistent with the goals of Connect SoCal, including the following:

Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods

Goal 4. Increase person and goods movement and travel choices within the transportation system

Goal 9: Encourage development of diverse housing types in areas that are supported by multiple transportation options.

The City of Huntington Beach is unable to accommodate any reallocated growth due to a lack of transportation options, which is not consistent with Connect SoCal Goals 2, 4, or 9. As a result, the SCAG RHNA methodology is wholly inconsistent with Connect SoCal and the PEIR must address this information.

³ SCAG 6th Cycle RHNA Draft Allocation Methodology November 7, 2019
<http://www.scag.ca.gov/programs/Documents/RHNA/RHNA-Draft-Methodology.pdf>

Support for Comments and Recommendations Submitted by Other Groups

The City of Huntington Beach expresses support for comments made by OCTA as they pertain to errors and inconsistencies between the existing and planned Orange County transportation network and the RTP/SCS and PEIR, as noted above. The City also expresses support for comments made by the Center for Demographic Research (CDR) and the Orange County Council of Governments (OCCOG). The City would like to highlight the following comments from CDR and OCCOG that are of the highest level of concern:

1. SCAG must utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space and entitlements are properly reflected for the RTP/SCS and PEIR.
2. CDR PEIR comments #33, #35, and #54 to add the following text: "SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG's total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG's population projections."
3. CDR RTP/SCS and OCCOG comments which revise text to maintain an objective/unbiased tone, delete sensationalized language, and include meaningful evidence to support generalized claims about the SCAG region.
4. OCCOG comments to revise the definition of a HQTAs used in the RTP/SCS and RHNA to be consistent with the definition of a HQTAs in SB 375 and the Strategic Growth Council. This is necessary to ensure the SCAG region is able to compete for available funds related to transit-oriented housing.
5. OCCOG comments opposing any alternative in the PEIR that does not utilize local input, including the intensified land use alternative. The RHNA must be consistent with the RTP/SCS as required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m).
6. OCCOG PEIR comments regarding the usage of "can and should" in mitigation measures. Revise all mitigation measures to be "considered where applicable and feasible" to clarify that these mitigation measures are a menu of options and not

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requirements. Further, any mitigation measure that includes a new fee or tax to be adopted at the jurisdictional level must be revised to clarify that it is an option for implementation and not a requirement. Also clarify whether the assumed revenue from the suggested new fees were included in the financial plan or economic analysis of the RTP/SCS.

10

Conclusion

Thank you for the opportunity to comment on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG's commitment to a fair and transparent process and will continue to be an active participant during the RTP/SCS update and 6th cycle RHNA process.

11

Sincerely,



Nicolle Aube, AICP
Associate Planner

Cc: Ursula Luna-Reynosa, Director of Community Development
Jennifer Villasenor, Deputy Director of Community Development
Jane James, Planning Manager



January 24, 2020

Draft Connect SoCal Plan Comments
 ATTN: Connect So Cal Team
 Southern California Association of Governments
 900 Wilshire Blvd., Suite 1700
 Los Angeles, CA 90017

RE: PUBLIC REVIEW AND COMMENT ON THE DRAFT CONNECT SOCIAL PLAN (2020-2045 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY) AND PROGRAM ENVIRONMENTAL IMPACT REPORT.

Connect So Cal Team,

Thank you for providing the City of Indio's Planning Division the opportunity to review and comment on the draft Connect SoCal plan (also known as the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy or RTP/SCS). After reviewing the information provided, comments pertaining to the draft Connect SoCal document and draft Program Environmental Impact Report the following updates and comments are being provided for consideration:

1

I. General Plan Update

In response to Table 3.8-4 *California Jurisdiction Addressing Climate Change in the SCAG Region (2019)* on the Draft Program EIR we would like to provide and update for the three items that were (IP) In Progress (1) GHG Reduction Plan, (2) Climate Action Plan, and (3) General Plan Policy. On September 18, 2019 the City Council approved the City of Indio 2040 General Plan Update (Resolution No. 10107) and Climate Action Plan (Resolution No. 10108). The General Plan addresses the mandatory elements required by state law that are Land Use, Housing, Circulation (Mobility), Conservation, Noise, Open Space and Environmental Justice. It also includes optional elements of Community Facilities and Infrastructure, Health and Equity (inclusive of Environmental Justice), Economic Development and Implementation. The Climate Action Plan establishes the City's goals for addressing and implementing measures consisting of policies, programs, and/or plans to achieve emissions reductions that would meet or exceed the established GHG reduction targets. The three items on the table mentioned

2

COMMUNITY DEVELOPMENT DEPARTMENT
 100 Civic Center Mall • Indio, CA 92201
 (760) 391-4120 • Fax (760) 391-4027

above can be updated to (A) Adopted with the addition of the General Plan Implementation Measures.

Below are current City projects aimed to reduce GHG emissions, encourage active transportation, and integrate shared mobility.

2

II. Multi Modal Hub Feasibility Study

The City applied to Caltrans for a Sustainable Planning Grant. The grant analyzed and evaluated fifteen (15) sites for a future Multi-Modal Hub site in the City of Indio. Furthermore, in collaboration with RCTC and Caltrans the feasibility study identified the selected site for use for passenger rail services. The passenger rail route is being planned as Special Events Train to operate between Los Angeles Union Station and Indio. The Special Events Train will serve the Coachella Valley Music and Arts Festival and Stagecoach Festival. The feasibility study looks at existing and proposed transportation system to provide multi-modal services such as park-and-ride, transit connections, bikeshare. The study includes site development, management and operations, maintenance, costs and funding. The Multi Modal Hub Feasibility Study is planned to be completed and adopted by February 2020.

3

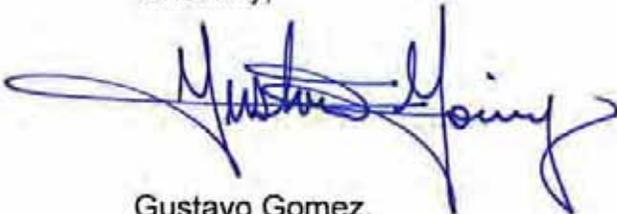
III. Complete Streets Plan

The City of Indio 2040 General Plan's Mobility elements outlines the goals and objectives for the Complete Streets Master Plan. The purpose of the Complete Streets Plan is to enhance connectivity across all travel modes. Although the City of Indio has over 20 miles of existing bikeways and various miles of existing sidewalks, there are still critical connectivity gaps for both bicyclists and pedestrians. As part of this project, transit, bicycle, and pedestrian connectivity improvements identified in the Mobility Element are being reviewed in the Complete Streets Plan to identify remaining connectivity gaps and identify projects to address these gaps. The Complete Streets Master Plan is expected to be completed by early 2020.

4

Thank you for your consideration of these comments. Should you have any questions please feel free to contact me at (760) 391-4064.

Sincerely,



Gustavo Gomez,
Assistant Planner



January 24, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017
ConnectSoCal@scag.ca.gov

Subject: Comments on Connect SoCal, the Draft 2020 Regional Transportation Plan/Sustainable Communities Strategy and Draft Program Environmental Impact Report

Dear Mr. Ajise:

The City of Irvine appreciates the opportunity to review and provide comments on Connect SoCal, the Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS) and the Draft Program Environmental Impact Report (PEIR). The draft 2020 RTP/SCS and PEIR is a significant effort and the City of Irvine recognizes that the documents are critical to the region's ability to receive federal funding for transportation projects, improve mobility, support sustainable development, operate and maintain the transportation system, and meet the region's greenhouse gas emission reduction targets and other air conformity standards.

The following general comments and recommendations are offered by the City of Irvine on the 2020 RTP/SCS, associated appendices, and PEIR. In support of this letter, please find attached more specific detailed comments from the City of Irvine that are consistent with the comments provided by the Orange County Council of Governments (OCCOG) and the Center for Demographic Research (CDR) at California State University Fullerton. The City of Irvine requests that this letter and all of its attachments be included in the public record as our collective comments on the 2020 RTP/SCS, PEIR, all associated appendices and documents, and online inventory of maps.

1. The City of Irvine concurs with the Orange County Council of Governments (OCCOG) and the Center for Demographic Research (CDR) at California State University Fullerton

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The City of Irvine concurs with the comments SCAG will receive from the OCCOG and the CDR. The City requests that SCAG respond to all of the comments detailed in the OCCOG and CDR letters and to act upon any changes advocated by OCCOG, of which the City is a member agency.

2

2. 2020 RTP/SCS Growth Forecast

The City of Irvine greatly appreciates the close coordination between SCAG and CDR on behalf of the City of Irvine to ensure the 2020 RTP/SCS growth forecast accurately reflects development agreements; entitlements; projects recently completed or under construction; open space; and general plan densities.

Additionally, the City of Irvine supports a growth forecast that is adopted at a geographic level no lower than the jurisdictional level. The City of Irvine provided SCAG with a detailed and accurate land use dataset and growth forecast during its eighteen (18) month Bottom-Up Local Input and Envisioning Process and through the submission of the 2018 Orange County Projections (OCP-2018) dataset.

3

On December 11, 2019, CDR provided SCAG with the technical corrections to the draft 2020 RTP/SCS growth forecast dataset on behalf of the City of Irvine and all other Orange County jurisdictions. The technical corrections ensure the final 2020 RTP/SCS growth forecast accurately reflects entitlements; development agreements; projects recently completed or under construction; open space; and general plan densities. On January 8, 2020, CDR requested, on behalf of the City of Irvine and all other Orange County jurisdictions, a copy of the final draft growth forecast dataset to confirm that all the technical corrections have been included in the final 2020 RTP/SCS growth forecast. On January 14, 2020, CDR was informed that SCAG would not provide a copy of the final draft growth forecast to CDR for review until mid-February 2020.

It is strongly recommended that SCAG utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space, development agreements, and entitlements are properly reflected.

The City of Irvine opposes any alternative in the PEIR that does not utilize local input, or at the very least, the jurisdictional totals provided through the local input process should be used. Any alternative that does not properly reflect all development agreements, open space protections, and recent or ongoing construction should not be utilized as the preferred alternative. We further note the failure to rely on accurate jurisdictional-level data divorces the 2020 RTP/SCS from the methodology proposed in the RHNA as required by

4

Government Code Section 65080 (b)(2)(B) and Section 65584.04(m) and we believe this must be remedied in the final 2020 RTP/SCS.

4

3. High Quality Transit Area (HQTA)

The alignment of SCAG's Regional Housing Needs Assessment (RHNA) and RTP/SCS documents is required by Government Code Section 65080 (b)(2)(B) and Section 65584.04(m). The proposed methodology SCAG submitted to the Department of Housing and Community Development (HCD) indicates that the HQTAs identified in the RTP/SCS using the 2045 planning year are to be used for RHNA purposes of evaluating "transit access." The City of Irvine has expressed concern throughout the RHNA methodology development process with the utilization of the Interstate 5 Bus Rapid Transit (BRT) corridor. The HCD approved RHNA methodology identifies three station stops within the City of Irvine, however, the Interstate 5 BRT project and the three station stops have not been approved or vetted by the City and are not certain. The City of Irvine requests that the station stops within the City of Irvine or potential references to them be removed from the RTP/SCS.

5

4. Remain Neutral on Technology

Throughout the documents, there are specific examples of technology identified. It is not SCAG's purview to pick winners and losers in technology; the marketplace will determine dominant technologies. Therefore, it should be noted that these are only examples and that future technologies should not be ignored or excluded from meeting the goals of the RTP/SCS. This will allow the document, including mitigation measures, to be more inclusive and responsive to changing technological advances.

6

5. Maintain Unbiased, Objective Tone

Language throughout the draft 2020 RTP/SCS, the PEIR, and the associated appendices has a tendency to be leading and dramatic in its emphasis of certain key issues, such as active transportation, public health, and land use policy. While these issues are important, using opinion-based and emotionally-charged language is inappropriate in this context.

7

SCAG should remove, wherever applicable, opinion and biased descriptive language that does not reflect the fact-based, data-driven nature of this critical document in favor of a more unbiased, objective tone that embraces the diversity of the region. Examples of overly emphatic language are outlined in Enclosure 1.

6. “Can and Should”

As indicated in the PEIR, state law provides that it is appropriate to indicate in mitigation measures that they “can and should” be implemented where the authority to implement the measure rests with agencies other than SCAG. The language conveys to local agencies an affirmative obligation to address each mitigation measure, irrespective of whether such agencies deem the measures applicable to a particular project or duplicative of their own or other governmental agencies’ regulatory measures. The City of Irvine recognizes SCAG’s use of the words “can and should” are derived from California Environmental Quality Act (CEQA), at Public Resources Code sections 21081 and 2155.2(b)(5)(ii) and CEQA Guidelines, including section 15091(a)(2). Nevertheless, given the express limitation of Senate Bill 375 (SB 375) upon respective local agencies’ land use authority, the City of Irvine deems any language seemingly imposing affirmative obligations contrary to SB 375 inappropriate. As such, the use of the language “can and should” for mitigation measures addressed to local agencies is overreaching.

The City of Irvine recommends SCAG change all language in all project level mitigation measures to read “~~can and should~~ consider where applicable and feasible.” This change will clarify that the project level mitigation measures are a menu of options.

7. Duplicative/Existing Regulations

It is noted that many of the mitigation measures are duplicative of existing regulation or processes (e.g., CEQA review requirements). Under CEQA, it is intended that measures be identified that will mitigate impacts of the project. Existing regulations are already assumed to be abided by in the evaluation of the impact, and the significance of the impact should be looked at after all existing regulation is applied. Mitigation measures should address those actions that need to be undertaken in addition to existing regulation in order to mitigate the impact. Therefore, mitigation measures that simply restate existing regulation are not valid mitigation for purposes of CEQA. Further, it is possible for regulations to change over time. Because of this, restatement of the regulation in the mitigation measures could result in future conflict between the stated mitigation and regulation. It has become common practice to state that existing regulation will be implemented. When this is done, it is common practice, when compliance is used as a mitigation measure, to simply state that the responsible entity will simply comply with the regulation. If mitigation measures that restate existing regulation are not removed, then it is requested that the wording of the measures be restated to simply read that compliance with all applicable laws and regulations will be undertaken. Language that could be used is “Local jurisdictions, agencies, and project sponsors shall comply, as applicable, with

existing federal, state, and local laws and regulations. Similar language is included in some mitigation measures.

9

8. Cities vs. Jurisdiction

Throughout the 2020 RTP/SCS, PEIR, and associated appendices, there are references to “cities”. Since the SCAG region also includes counties, it is recommended that references to “city” or “cities” are changed to “jurisdiction” or “jurisdictions” where appropriate.

10

9. Spell out Acronyms Prior to Using Abbreviations

There are many different abbreviations used throughout the documents. To avoid confusion and help persons unfamiliar with technical jargon, spelling out the acronyms prior to using them for the first time is common; however, this is often missing in the 2020 RTP/SCS documents.

11

10. Provide Sources for All Graphics and Tables

When a report of such complexity as the 2020 RTP/SCS is produced, it is common for tables, maps, and other graphics to be used or referred to in a manner that could divorce them from the context in which they are presented. For instance, someone may come upon a chart that explains a topic they are reaching and could download the image separate and apart from the technical explanation accompanying it in the electronic version of the document. Without source information embedded in the graphic, information can be spread without proper attribution. The City of Irvine understands that it may “look cleaner” to not include a source, date, and citation for data but best practices for technical reports include adding sources to all graphics.

12

11. Fees and Taxes

Several mitigation measures indicate that local jurisdictions or other entities should implement new fees or propose taxes to pay for a variety of programs or for acquisition of land for preservation. Increases to fees or taxes are issues that could require voter approval and, therefore, it should not be assumed that they will be approved.

13

The City of Irvine recommends that SCAG reword measures to indicate that a new or increased fee, new tax, or other increase is only an option as a way to implement the mitigation. SCAG should also clarify whether it was assumed that these additional fees were considered feasible and if the new fees that are suggested were considered in the financial plan or economic analysis of the RTP.

The City of Irvine appreciates your consideration of all comments provided in this letter and enclosure and looks forward to your responses. It is a shared goal to have a Regional Transportation Plan and Sustainable Communities Strategy adopted by the April 2020 deadline that represents the best in regional planning developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible on all levels. If you have any questions, please do not hesitate to call me.

14

Sincerely,



Pete Carmichael
Director of Community Development

Enclosure: Detailed Comments on the 2020-2045 RTP/SCS, PEIR, and Related Appendices – City of Irvine

cc: John Russo, City Manager
Marianna Marysheva, Assistant City Manager
Michelle Grettenberg, Deputy City Manager
Mark Steuer, Director of Public Works and Transportation
Jaimee Bourgeois, Deputy Director of Transportation
Tim Gehrich, Deputy Director of Community Development
Kerwin Lau, Manager of Planning Services
Melissa Dugan, Supervising Transportation Analyst
Marika Poynter, Principal Planner
Marnie Primmer, Executive Director, OCCOG (email)
Deborah Diep, Director, Center for Demographic Research (email)



City of La Habra

"A Caring Community"

LOC-8

COMMUNITY DEVELOPMENT

110 E. La Habra Boulevard
Post Office Box 337
La Habra, CA 90633-0785
Office: (562) 383-4100
Fax: (562) 383-4476

December 19, 2019

Southern California Association of Governments
Attn: Roland Ok
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Re: Draft Connect So Cal Program Environmental Impact Report Comments

Dear Mr. Ok,

Thank you for the opportunity to review the "Draft Connect So Cal Program Environmental Impact Report". As you are aware, the California Environmental Quality Act allows potentially affected agencies to comment on proposed projects that may cause significant environmental impacts to their community. Given the nature of the project, the following are our concerns and comments:

DOWNLOADS

Draft Connect SoCal Plan- No comments.
Chapter 0: Making Connections- No comments.
Chapter 1: About the Plan- No comments.
Chapter 2: SoCal Today- No comments.
Chapter 3: A Path to Greater Access, Mobility and Sustainability- No comments.
Chapter 4: Paying our Way Forward- No comments.
Chapter 5: Measuring our Progress- No comments.
Chapter 6: Looking Ahead- No comments.
Glossary: No comments.

TECHNICAL REPORTS

Active Transportation-

Page 19. Discuss why Figure 7 and Figure 9 are different but with the same title.
Page 42. Figure 27- The graph is difficult to interpret. The Y-Axis is speed and the X-Axis appears to be percentages. It has been proven that higher speeds cause more injuries and deaths but this particular graph does not make sense. The Y-Axis appears to be a percentage...a percentage of what?
Page 51. Figure 30- Some of the colors appear to be the same. Please use different colors so that the data can be understood.
Page 99. Don't "fade" the north Orange County area. Show the entire County including the La Habra and Brea area. The header can be relocated to another location on the page.

Connect SoCal PEIR
12/19/19
Page2

Aviation and Airport Ground Access- No comments

Congestion Management- No comments

Congestion Management- Appendix 1

Page 2. Define SOV (Single Occupancy Vehicle)

Demographics and Growth Forecast- No comments

Economic and Job Creation Analysis

Page 4. There needs to be discussion bringing Los Angeles Metropolitan Transit Authority (METRO) facilities into Orange County. METRO and Orange County Transportation Authority (OCTA) need to start discussing this soon if they have not already.

Emerging Technology- No comments.

Environmental Justice- No comments.

Goods Movement

Page 116, Exhibit 25- Title obstructs Collision Density data. Please relocate the Title.

Page 128- The Burlington Northern Santa Fe Railroad has already adopted design standards to accommodate future electrification of their rail system by requiring addition clearance for new overhead bridges over their tracks.

Highways and Arterials

Page 21, The I-405 Project between State Route 73 and I-605 is already underway. The completion year stated in the document is 2026. Is this completion date correct?

Natural and Farm Lands Conservation- No comments.

Passenger Rail- No comments

Performance Measures- No comments.

Project List- No comments

Public Health- No comments

Public Participation and Consultation- No comments.

Sustainable Communities Strategy- No comments.

Sustainable Communities Strategy- Appendix 1- No comments.

Transit

Page 32, Exhibit 7- The High-Quality Transit Corridors don't appear to match maps in previous Exhibits (Passenger Rail). One shows a High-Quality Transit Corridor along Harbor Boulevard and the other one does not.

Transportation Conformity Analysis- No comments.

Transportation Finance- No comments.

Transportation Safety and Security

Page 56, Mitigation is spelled wrong in the Title on the right side of the page. Please check the second sentence under this same Title. I think the sentence should read "Very large earthquakes (M>7.5) on the San Andreas Fault are both the most uncommon and potentially the most devastating to the region and the nation." These types of large earthquakes are not the most common type of earthquakes in Southern California.

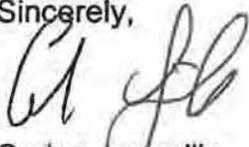
Transportation Safety and Security- Appendix 1- No comments.
Connect SoCal PEIR
12/19/19
Page 3

Transportation Safety and Security- Appendix 2- No comments.

We are prepared to assist you in addressing the above concerns. We would request that a copy of the draft environmental impact report be forwarded to the City where modified to address the City's concerns for review and comment. Additional comments may be generated based on that review.

If you should have any questions concerning the comments, please feel free to contact Mr. Chris Johansen, P.E., City Engineer at (562) 383-4151.

Sincerely,



Carlos Jaramillo
Deputy Director of Community Development

cc: Andrew Ho, Director of Community Development
Chris Johansen, P.E., City Engineer



CITY OF LAGUNA HILLS

January 24, 2020

Delivered Electronically

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 9001

Re: City of Laguna Hills Comments for Connect SoCal; 2020 RTP/SCS and PEIR

Dear Mr. Komise:

The City of Laguna Hills appreciates SCAG's efforts to address complex regional issues and to collaboratively plan with local jurisdictions. The City of Laguna Hills respectfully provides the comments below concerning SCAG's 2020 RTP/SCS known as Connect SoCal (the Plan).

Local Input

The City supports the use of data provided to SCAG on behalf of the City by Cal State Fullerton's Center for Demographic Research (CDR) via OCP-2018. At this time the City understands that CDR has not yet been given the opportunity to review the final RTP/SCS growth forecast. The City does not support any intensification of the City's land uses in the proposed RTP/SCS beyond the local input provided in OCP-2018.

Interstate 5 (I-5) High Quality Transit Area (HQTA) Proposal – South Orange County

The City is perplexed by the Plan's proposal to designate I-5 in south Orange County as a High Quality Transit Area. The Plan refers to HQTAs as corridor-focused growth areas within one half mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. No such transit access currently exists anywhere in south Orange County, and based on the City's understanding of the Orange County Transportation Authority's (OCTA) operations, no such transit access is contemplated. Without the appropriate supporting transit, an HQTA designation for I-5 is not justified.

Nearly 360,000 motorists travel the I-5 daily in South Orange County, and volumes are expected to grow 25 percent by 2045 (OCTA, 2019). Increasing higher intensity housing uses along the I-5 will merely add congestion without reducing per capita VMT since limited transit alternatives

for commuting to job centers exist for South County residents. While OCTA and CalTrans are working to implement various widening projects to improve capacity of the I-5, there are no plans associated with CalTrans or OCTA projects to add any infrastructure typically associated with an HQTAs. In addition, a substantial portion of the land area adjacent to I-5 in south Orange County is constrained by steep slopes, flood control improvements, rail infrastructure, water and sewer infrastructure, and open space. There may be pockets of areas that exist along the I-5 that could arguably transition to higher intensity land uses under the Plan (such as near existing Transit Priority Areas), but these pocket growth areas do not justify the designation of the entire I-5 corridor as an HQTAs. Therefore, the City requests that the HQTAs designation be revised on the I-5 corridor to extend no further south than El Toro Road. The City believes revising the HQTAs in this manner is appropriate given a variety of land use and planning factors that exist in the area. These factors lend themselves to supporting a transition to higher intensity land uses contemplated by the Plan in the City of Laguna Hills.

Sincerely,



David Chantarangsu
Community Development Director
City of Laguna Hills

Candice Vander Hyde – City of Lancaster, Management Analyst

To Whom It May Concern.

After reviewing the projects listed in the Connect SoCal PEIR document, the City of Lancaster would like to submit to you that there are two of our projects missing from the project listing. The following are the TIP IDs and Titles for the missing projects:

- LA9918789: 10th Street West and Avenue J Improvements
- LATP16S001: 10th Street West Road Diet & Bikeway Improvements

CITY OF LOS ANGELES
INTER-DEPARTMENTAL MEMORANDUM

Date: January 16, 2020

To: Honorable City Council
c/o City Clerk, Room 395
Attention: Honorable Mike Bonin, Chair, Transportation Committee

From: *for* Seleta J. Reynolds, General Manager *[Signature]*
Department of Transportation

Subject: **Draft Connect SoCal (2020 Regional Transportation Plan / Sustainable Communities Strategy)**

SUMMARY

This report recommends that the City Council authorize the Los Angeles Department of Transportation (LADOT) to submit comments on behalf of the City of Los Angeles (City) to the Southern California Association of Governments (SCAG) on the draft Connect SoCal Plan (2020 Regional Transportation Plan/Sustainable Communities Strategy).

RECOMMENDATION

1. APPROVE the comments provided in this report to be submitted on behalf of the City in response to the draft SCAG Connect SoCal Plan.
2. DIRECT LADOT to transmit comments to SCAG that are substantially consistent with those contained in this report.
3. DIRECT LADOT to work with SCAG to incorporate the comments into the Final Connect SoCal Plan and related Programmatic Environmental Impact Report (Program EIR).

1

BACKGROUND

Every four years, the Southern California Association of Governments prepares a Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the six-county region. The draft 2020 RTP/SCS, Connect SoCal, includes planned transportation projects and demographic projections through 2045. Connect SoCal presents a strategy for investing \$638 billion into the region's transportation network over the next 25 years and a Sustainable Communities Strategy (SCS) for the six-county region.

Required by SB 375, the SCS focuses on reducing greenhouse gas (GHG) emissions from vehicles and light trucks by integrating land use and transportation planning, expanding transit, implementing transportation demand management, and leveraging new transportation technologies to reduce vehicle trips. The California Air Resources Board (CARB) set a regional GHG emissions reduction target for the SCAG region. The target addressed by the draft Connect SoCal Plan is to reduce GHG emissions eight percent below 2005 per capita emission levels by 2020, and 19 percent below 2005 per capita emissions levels by 2035. In addition to the regional target, CARB indicates a 25 percent GHG reduction is needed

2

by 2035 in order to meet the State's climate action goals. While SCAG anticipates the implementation of Connect SoCal will achieve both the 2020 and 2035 GHG reduction targets, the plan's Program Environmental Impact Report (Program EIR) indicates that Connect SoCal is not forecasted to achieve the reductions that CARB has determined necessary to meet the State's climate action goals. Connect SoCal's inability to meet the statewide reduction target may inhibit cities from relying on the plan. While it may be infeasible to consider a scenario that meets the more aggressive statewide target, SCAG should continue to partner with state and local agencies to pursue innovative solutions that reduce regional vehicle miles traveled (VMT) and resulting greenhouse gas emissions. These strategies may need to reach beyond traditional land use policies involving growth forecasting, and additionally consider market solutions like roadway pricing, broad scale fleet electrification, electric charging infrastructure, and new transportation technology partnerships that fundamentally alter the incentives for drive-alone trips.

2

SCAG could further support lowering regional VMT by leading a regional VMT reducing credit system, or 'VMT exchanges' similar to cap and trade markets. VMT exchanges could enable more sustainable outcomes throughout the six-county region by collecting off-set credits to reinvest in sub-regionally managed programs, like subsidizing transit passes for students. Metro has already demonstrated that such programs can lower the demand to drive alone. These investments could also potentially reverse the national trend of falling transit ridership. We are supportive of innovative strategies in the SCAG mitigation measures listed on page 3.17-62 to 3.17-64 of the Program EIR, and offer to be an active partner in these efforts.

SCAG recently conducted a series of workshops across the region, including in-depth graphic and narrative presentation materials. The City appreciates the outreach effort, both to the City and across the region.

3

Following the release of the draft Connect SoCal Plan on November 7, 2019, LADOT reviewed the draft plan and compiled the proposed comments to SCAG. The discussion included in this memo represents comments and concerns related to LADOT's goals and strategies.

DISCUSSION OF POLICY CONCERNS AND COMMENTS

Policy and Planning Framework

Since the adoption of the 2016 RTP/SCS, the City of Los Angeles adopted several plans and policies that further the legislative framework that informs the Connect SoCal. We are pleased to see SCAG acknowledge the City's Mobility Plan 2035 as a substantial advancement since the adoption of the 2016-2040 RTP/SCS. The Mobility Plan 2035 fundamentally shifted the City's priorities by adopting goals that include designing for safety first, building a world class infrastructure with a 'complete streets' planning framework, access for all Angelenos, more collaboration and informed choices, and a clean environment and health community. These goals align with the goals of SB 375 to reduce greenhouse gas emissions that are a bi-product of travel, especially drive-alone trips.

4

Since the adoption of the Mobility Plan 2035, the City continues to put the plan into action with meaningful results. In advancing the safety first goal, LADOT released the *Vision Zero Action Plan*¹ which aims to eliminate traffic-related deaths by 2025.

¹ [Vision Zero Action Plan](#), January 2017.

LADOT's Strategic Plan *Great Streets for Los Angeles*² released in January 2018 describes the department's vision to provide access to safe and affordable transportation choices that treat everyone with dignity and support vibrant inclusive communities. This Strategic Plan includes actionable strategies that advance the department's priorities through 2020.

Transportation technologies have changed rapidly within the past five years. LADOT released a transportation technology strategy titled, *Urban Mobility in a Digital Age*³ in August 2016, which focuses on building a solid data foundation, leveraging technology and design for a better customer experience, creating partnerships for more complementary shared services and prepare for an automated future. In November 2019, LADOT released the Technology Action Plan that outlines the visions defined in the *Urban Mobility in a Digital Age*. This action plan provides guidance for LADOT to clearly communicate physical and virtual platforms that maximize equity and livability.

Lastly, Mayor Eric Garcetti released *LA's Green New Deal*⁴ in April 2019, which sets aggressive goals for the City's sustainable future, tackles the climate emergency with accelerated targets to reduce greenhouse gas emissions, strengthens our economy and middle class, and sets the City on course to be carbon neutral by 2050.

We would like to underscore the strong commitments the City has made to advance innovative and sustainable transportation strategies that have the potential to transform the historical reliance on the personal automobile. In the creation of the Final Connect SoCal Plan, we invite SCAG to draw from the vast array of transformative strategies that can increase the share of sustainable trips, especially those that scale at the regional level.

4

Transportation System Project List

The RTP includes an extensive project list. As stated in the Project List appendix, the list is divided into three primary sections, as follows: 1) The Federal Transportation Improvement Program (FTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already committed funding; 2) the Financially Constrained list of projects not included in the FTIP but which have "reasonably available" funding; and 3) Strategic Plan projects representing an unconstrained list of potential projects that the region would pursue given additional funding and commitment.

LADOT closely reviewed the three Transportation Project lists. The City's requested revisions are categorized under the three RTP project list categories:

- *FTIP*: A small number of projects that were removed in a recent FTIP amendment remain on this draft list. This list should be updated to reflect the most recent FTIP amendment;
- *Financially-Constrained RTP*: SCAG should work with the City to ensure all eligible projects and programs are captured in the final list. There are some projects that have identified funding, under construction or being implemented that are omitted that should be included; and

² [Great Streets for Los Angeles](#), January 2018.

³ [Urban Mobility in a Digital Age](#), August 2016.

⁴ [L.A.'s Green New Deal](#), April 2019.

- *Strategic Projects:* Some projects on this list were identified from adopted Community Plans and include projects related to decreasing automobile delay and improving the outdated Level of Service (LOS) metric. The City is re-evaluating whether these projects are compatible with the policy goals of SB 743. Several Community Plans are anticipated to be updated over the next few years and City staff may work with SCAG to ensure this projects on this list are compatible with current City policy goals.

Following the review of the Transportation Conformity Analysis Technical Report, Table 63 should reflect any changes made to the FTIP Project List included in the Project List Technical Report.

LADOT recently initiated the Mobility Investment Program (MIP), which represents the department's data-driven effort to capture and plan for mobility investments that advance the City's values and vision for transportation. The MIP institutes project-delivery best practices to identify funding opportunities early in project development, enhance project engagement and evaluation protocols, pursue formalized interagency collaboration, and establish short- and long-term capital improvement plans. As a comprehensive, map-based inventory of both funded and unfunded projects, LADOT will utilize the MIP to develop short-term (five year) and long-term (20 year) plans to serve as the Department's infrastructure playbook that will prioritize the City's mobility investments. In coordination with the RTP project lists, the MIP will be cross-referenced to ensure the projects within the City are included on the appropriate RTP project lists and reflect a similar level of priority and implementation timeframe identified by the City.

4

We suggest that the SCAG staff responsible for compiling the Transportation System Project List meet with LADOT Planning and Policy staff prior to adoption of the Final Connect SoCal Plan to ensure project information is up to date. Should the RTP Project Lists be updated to address any of the comments mentioned above, LADOT requests SCAG closely coordinate with City staff on the revisions.

SB 743 Implementation

In 2013, the State of California signed SB 743 into law, which requires a shift in the way cities measure environmental impacts. State guidelines require all cities to update their transportation impact analysis metrics from level of service (LOS) to vehicle miles traveled (VMT) before July 1, 2020. In July 2019, the City of Los Angeles adopted new CEQA Transportation thresholds, accompanied by updated Transportation Assessment Guidelines, to comply with SB 743.

The City acknowledges SCAG's efforts noted in the Connect SoCal plan to support and assist in the implementation of SB 743 throughout the region. One notable effort was the assistance provided through the Sustainability Planning Grants, of which several jurisdictions took advantage of including the City of Los Angeles. LADOT encourages SCAG to continue taking a leadership role in providing technical assistance to cities beyond the State's deadline to comply.

5

SCAG's in-house data and transportation modeling expertise could be leveraged to provide hands-on assistance to the jurisdictions within the SCAG region that may not have the staff resources or funding to appropriately respond to the State mandate. SCAG's leadership could narrow the gap in staff capacity and available funding by developing sub-regional sketch planning tools and recommending uniform

thresholds to be considered for each sub-area Council of Governments (COG). SCAG should continue to help develop VMT exchanges by providing more technical capacity and regional forums with a goal to better serve areas of the region with fewer mitigation options. Continued research on these topics will allow for more efficient implementation of SB 743 across jurisdictional lines in order to achieve the intended outcomes of the legislation: promote reductions in greenhouse gas emissions, develop multimodal transportation networks, and diversify land uses.

5

Emerging Transportation Technology

Transportation technology has evolved rapidly over the last five years. Micro-mobility and on-demand transportation services, including Transportation Network Companies (TNCs) and dockless devices have dramatically changed how people travel within the City of Los Angeles and the SCAG region. The draft Connect SoCal plan's Emerging Technology Technical Report initiates a discussion on how these technologies impact travel behavior regionwide.

Connect SoCal alludes to the possibility of emerging technologies disrupting the transportation system and increasing VMT. We encourage SCAG to take a more proactive approach to integrating new transportation technologies in a way that promotes sustainable travel choices and meets the region's greenhouse gas emission reduction goals. LADOT's strategy for regulating, monitoring, and evaluating emerging transportation technologies is outlined in *Urban Mobility in a Digital Age*. The groundwork by which LADOT will implement this plan and regulate emerging technologies can be found in LADOT's Technology Action Plan (TAP).⁵ LADOT recommends SCAG provide guidance in Connect SoCal to help cities throughout the region effectively manage new innovations operating in public spaces and neighborhoods.

6

Cities host a suite of operational and regulatory services that include moving people to safety during emergencies, sometimes shutting down streets, providing safe passage to those wishing to gather and demonstrate, and managing and pricing the curb to regulate parking and deliveries. New technology enabled modes require technological tools to enforce regulations, streamline customer service, and empower private companies to provide service equitably and responsibly. SCAG should consider both the needs and the opportunities of government agencies within their jurisdiction to leverage the technological advancement that brings both challenges and opportunities. In September 2019, LADOT deployed the Mobility Data Specification (MDS) to regulate dockless mobility. We urge SCAG to consider advancing the role of MDS and other digital regulatory tools to better plan for evolution in the transportation technology landscape.

Lastly, public transit use has declined over the past few years both throughout the SCAG region and nationwide. As the regional Metropolitan Planning Organization, SCAG plays a unique leadership role in policies and programs that support public transit use and sustainable transportation modes.

Transportation Model Review

As SCAG updates and makes changes to the transportation model, LADOT urges SCAG to work closely with City staff to ensure those changes are consistent with existing datasets and forecasts. LADOT uses SCAG's transportation model as the foundation for the City's transportation model. Transparency in the

⁵ [Technology Action Plan](#), November 2019.

development of the model, baseline model assumptions, and framework are valued and critical components of the update process.

6

Conclusion

The draft Connect SoCal Plan and Program EIR provide a long-range vision that aims to balance future regional mobility and housing needs with economic, environmental, and public health goals. The plan represents a six-county effort to meet both State and Federal requirements and GHG reduction targets. If approved, the comments in this report will be submitted to SCAG by LADOT on behalf of the City of Los Angeles.

7

FINANCIAL IMPACT

This report contains comments regarding proposed policies and projects included in the draft Connect SoCal Plan (2020 RTP/SCS) and related Program EIR. The comments to be transmitted to SCAG will not impact the City's General Fund.

SJR:pl



City of Mission Viejo

Office of the City Manager

Brian Goodell
Mayor

Trish Kelley
Mayor Pro Tem

Wendy Bucknum
Council Member

Greg Raths
Council Member

Edward Sachs
Council Member

Electronic Transmittal:

ConnectSoCal@scag.ca.gov

2020PEIR@scag.ca.gov

January 22, 2020

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Dear Mr. Ajise:

Subject: City of Mission Viejo Comments: Draft Connect SoCal and Draft Connect SoCal Program Environmental Impact Report

The City of Mission Viejo respectfully submits comments on the Southern California Association of Government (SCAG) draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and its associated Draft Program Environmental Impact Report (EIR), also known as Connect SoCal and the Connect SoCal Program EIR.

The comments provided below identify broader policy inquiries that surfaced as we reviewed the Connect SoCal documents. SCAG's responses to these inquiries will further assist in our understanding of the achievement of SB 375 greenhouse gas emissions reductions on the Connect SoCal Plan and its EIR alternatives, in addition to a clearer understanding of the application of Connect SoCal policies and EIR mitigation measures on local government projects.

1

The City of Mission Viejo comments are as follows:

Greenhouse Gas Emissions Reductions:

1) Connect SoCal Program EIR; Section 4; Alternatives:

2

Discussion: One of the primary objectives of Connect SoCal is to achieve SB 375 greenhouse gas emissions reduction targets for Year 2020 and Year 2035. The Connect SoCal Plan and the Program EIR identify that the Proposed Plan exactly meet the Year 2020 and Year 2035 GHG emissions reduction targets for cars and light-duty trucks of a per capita 8% and 19% reduction, respectively (PEIR: Table 3.8-10: SB 375 Analysis, page 3.8-74).

Mr. Kome Ajise

City of Mission Viejo Comments: Draft Connect SoCal & Draft Connect SoCal Program EIR

January 20, 2020

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The Draft Program EIR Alternatives section further outlines three alternatives for analysis: the No Project Alternative, Existing Plans-Local Input Alternative, and Intensified Land Use Alternative. As discussed below, the City of Mission Viejo recommends that the Program EIR be revised to include a quantification and consistent discussion on the amount of GHG emissions reduction that would be achieved for each EIR alternative.

This request is of particular importance, since Connect SoCal is based upon a land use distribution that differs from the Local Input received from SCAG jurisdictions. While the total numbers of population, households and employment are consistent at the jurisdiction level with the input provided by local jurisdictions on their future growth estimates, the proposed Connect SoCal plan internally shifts, within jurisdictions, future growth proximate to Priority Growth Areas such as high quality transit areas, resulting in a land use distribution that differs from the Local Input distribution, to reduce Vehicle Miles Traveled (VMT) and reduce greenhouse gas emissions.

Recommendations: Given that the distribution of land uses is different between the proposed Connect SoCal Plan, the Local Input Alternative, and the Intensified Land Use Alternative, the PEIR should clearly identify and consistently discuss in the narrative of each EIR Alternative, how much per capita GHG emissions reduction would be achieved for both Year 2020 and Year 2035, for all the EIR Alternatives, as follows:

- a) Table 4.0-1: Comparison of Connect SoCal and Alternatives (pages 4.0-7 –4.0-9) should be revised to include an “element” that addresses the amount of SB 375 GHG emissions reduction that would be achieved for Year 2020 and Year 2035 for the Connect SoCal Plan and each of the EIR Alternatives.
 - b) The narrative in the Alternatives section should be revised to consistently identify and reference how much GHG emissions reduction is achieved, for both Year 2020 and Year 2035, for each of the discussed Alternatives.
- 2) Connect SoCal Program EIR: Section 4: Alternatives: Alternative 3: Intensified Land Use Alternative:

Discussion: The Draft EIR discussion for the Intensified Land Alternative (pages 4.0-40 and 4.0-41) states that the transportation-related GHG emissions generated by this Alternative is projected to be less than the Connect SoCal Plan, because it generates less VMT. The Draft EIR further states that the Intensified Land Use Alternative is projected to achieve the 2020 target of 8% per capita reduction, and would exceed the 19% reduction for Year 2035 (actual amount is not specified; see Comment #1 above).

The draft EIR then proceeds to conclude that “Since meeting the regional reduction goals from cars and light-duty trucks would not be sufficient to meet the state’s overall GHG reduction goals, this alternative would conflict with AB 32 and SB 32. The Plan would have the same impact as this alternative.”

Mr. Kome Ajise

City of Mission Viejo Comments: Draft Connect SoCal & Draft Connect SoCal Program EIR

January 20, 2020

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Recommendation: Please re-review the paragraph cited above. Its conclusion (that the Intensified Land Use Alternative and the Connect SoCal Plan GHG emissions reduction capabilities are not sufficient to meet the targets) seems contradictory and perhaps incorrect, based on the data cited.

3

Vehicle Miles Traveled:

3) Connect SoCal Program EIR: Section 3:8 Greenhouse Gases: SB 743 and VMT Guidance

Discussion: The Draft Program EIR includes detailed discussion on the statewide and regional emphasis to reduce VMT as a mechanism to tackle greenhouse gas emissions reductions goals established under AB 32, SB 32 and the California Air Resources Board's Scoping Plan. However, the Draft EIR further states that "even if all MPOs meet their regional SB 375 GHG targets, the state would not be able to meet the statewide GHG reduction goals of AB 32, SB 32 and the Scoping Plan." (page 3.8-80).

4

Recommendation: Please clarify if there is any discussion in the draft Connect SoCal Plan, the Draft SoCal EIR or any of the technical appendices of said documents, that either identifies, recommends, or infers the attainment of a specific VMT reduction policy, target or performance measure for the SCAG region, or that may be imposed upon local governments.

Draft EIR Mitigation Measures:

4) Draft Connect SoCal EIR Mitigation Measures: Table ES-5: Summary of Project Impacts, Mitigation Measures and Residual Impacts

Discussion: The Draft Program EIR discusses two tiers of mitigation measures: mitigation measures that would be applied to SCAG, and mitigation measures that would be applied to local jurisdictions and other lead agencies responsible for project-specific environmental review documents for specific projects. The project level mitigation measures are currently structured with a reference of "can and should", as follows:

"In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project *can and should* consider mitigation measures to reduce substantial adverse effects". (emphasis added).

5

Recommendation: The Draft EIR (page ES-16) states that the project level mitigation measure approach of "can and should" provides detail on possible mitigation measures that can be considered by Lead Agencies as they conduct environmental assessments of specific projects. The Draft EIR further recognizes that flexibility should be maintained in the application of mitigation approaches, given the variety and scope of projects proposed in the 6-county SCAG region. The Draft EIR further identifies narrative that the application of the "can and should" approach, "be considered by lead agencies in

Mr. Kome Ajise

City of Mission Viejo Comments: Draft Connect SoCal & Draft Connect SoCal Program EIR

January 20, 2020

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project-specific environmental review documents *as appropriate and feasible.*" (emphasis added).

The City of Mission Viejo fully supports flexibility in the application of the project-level mitigation measures, and recommends that each of the project-level mitigation measures listed in the Draft Connect SoCal Program EIR be revised to also include the reference "as appropriate and feasible," as follows:

"In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should, as appropriate and feasible, consider mitigation measures to reduce substantial adverse effects

The City of Mission Viejo appreciates the opportunity to provide comment on the broader policy issues raised herein, and also expresses support of the comments and recommendations on the Draft 2020 RTP/SCS and PEIR by the Orange County Council of Governments, the Orange County Transportation Authority, the Center for Demographic Research, and other Orange County agencies whose comments support Connect SoCal with its use of the Orange County's growth forecast – the 2018 Orange County Projections.

Should you have any questions on this transmittal, please do not hesitate to contact either Elaine Lister at elister@cityofmissionviejo.org, or Mark Chagnon at mchagnon@cityofmissionviejo.org.

With appreciation,



DENNIS WILBERG
City Manager

- c: City of Mission Viejo City Council
Elaine Lister, Director of Community Development
Mark Chagnon, Director of Public Works
Larry Longenecker, Planning and Economic Development Manager
Philip Nitollama, Traffic/Transportation Engineer
Nate Farnsworth, OCCOG TAC Chair
Marnie O'Brien Primmer, OCCOG Executive Director
Gail Shiomoto-Lohr, GSL Associates

Claudia Manrique – City of Moreno Valley – Associate Planner

Connect SoCal Team:

The City of Moreno Valley appreciates the opportunity to submit comments on Southern California Association of Governments' (SCAG) Draft Connect SoCal Plan (also known as the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy or RTP/SCS). It is important that the Connect SoCal Plan is equitable, achievable, and results in sustainable development.

The City of Moreno Valley has reviewed the draft Connect SoCal Plan and related technical studies. Based on our review, the City of Moreno Valley has the following comments:

1. I-215 from I-10 to I-15 should be included as an existing major Goods Movement corridor.
2. SR60 through the Badlands to I-10 should be included as part of the Primary Highway Freight System.
3. Plan does not reflect current Riverside County Transportation Commission (RCTC) study / strategy for Metrolink and Express Bus expansion.
4. Arterial Network included is not complete for City of Moreno Valley.
5. The Planned Regional Express Lane Network should be updated to reflect recent Riverside County Transportation Commission (RCTC) decisions.
6. Active Transportation discussion should include the importance of consistent standards and maintenance for regional trail systems.
7. Bicycle Network is not complete for the City of Moreno Valley.
8. There is a need to compare the Draft Connect SoCal Plan with the proposed 6th Cycle RHNA for compatibility.

**CITY OF SOUTH PASADENA**

OFFICE OF THE MAYOR

1414 MISSION STREET, SOUTH PASADENA, CA 91030

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January 21, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Re: City of South Pasadena Draft Connect SoCal Plan Comments

Dear Mr. Ajise,

The City of South Pasadena (City) appreciates the opportunity to review and comment on the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) and associated Programmatic Environmental Impact Report (PEIR).

In October 2019, Governor Newsom signed Assembly Bill 29 (Holden) and Senate Bill 7 (Portantino) to remove the State Route 710 (SR-710) freeway stubs located north of Interstate 10 and south of Interstate 210 from the State Highway Code. In addition, AB 29 and SB 7 declared that “any other freeway or tunnel alternative to close the Interstate 710 North Gap shall no longer be deemed as feasible alternatives for consideration in any environmental review process for the Interstate 710 North Gap Closure project...”

Furthermore, the Los Angeles County Metropolitan Transportation Authority (Metro) and California Department of Transportation (Caltrans) decision to adopt the Transportation System Management/Transportation Demand Management Alternative for the SR-710 North Project further emphasizes the fact that the SR-710 Freeway Alternative is dead. The City is pleased to see that the description for Federal Transportation Improvement Program (FTIP) project LA710NB and RTP project 1M0101 has been updated to include the TSM/TDM Alternative in the RTP project list. The City recognizes that S1120082 was included in the Strategic Plan to reflect additional projects that have been proposed as SR-710 Mobility Improvement Projects.

However, the City is concerned by the inclusion of FTIP/RTP project 18790 (please refer to the below table). The project is described as an “Alternative Analysis, Engineering and Environmental Studies to close 710 freeway gap...” As described, this project is contrary to the Metro and Caltrans decision to move forward with the TSM/TDM Alternative and recent state legislation deeming any freeway alternative for the SR-710 North Project as infeasible.

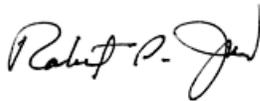
<u>FTIP ID</u>	<u>RTP ID</u>	<u>Description</u>	<u>Project Cost (\$1,000's)</u>
LA710NB	1M0101	SR RT. 710 North - Transportation System Management (TSM) & Transportation Demand Management (TDM) as identified in the EIR/EIS	\$111,000
18790	18790	Route 710: Study to perform Alternative Analysis, Engineering and Environmental Studies to close 710 freeway gap (EA# 18790, PPNO# 2215)	\$70,454
	S1120082	SR-710 Transportation Improvement Options	Strategic Plan

1

To ensure consistency with state legislation and the Metro and Caltrans decision to move forward with the TSM/TDM Alternative the City requests that project 18790 be removed from the RTP project list.

If you have any questions or comments, please feel free to contact Margaret Lin, Manager of Long Range Planning and Economic Development, at mclin@southpasadenaca.gov or (626) 403-7236.

Sincerely,



Robert S. Joe
South Pasadena Mayor

cc: South Pasadena City Council





CITY OF WEST HOLLYWOOD

LOC-15

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WEST HOLLYWOOD, CA
90069-6216
TEL: (323) 848-6460
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OFFICE OF THE CITY MANAGER

PAUL AREVALO
CITY MANAGER

January 23, 2020

Roland Ok
Senior Regional Planner
Southern California Association of Governments
900 Wilshire Blvd, Ste 1700
Los Angeles, CA 90017

RE: Southern California Association of Governments Connect SoCal – Draft Program
Environmental Impact Report (SCH# 2019011061)

Dear Mr. Ok:

Thank you for the opportunity to provide input on the Draft Connect SoCal Program EIR.

The City of West Hollywood is supportive of the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) vision to promote sustainable development in the region.

To that end, the City of West Hollywood encourages SCAG to actively support our ongoing work with Metro and the City of Los Angeles to accelerate delivery of the Northern Extension of the Crenshaw/LAX transit line through some of the densest and most congested parts of the region including Mid City Los Angeles, West Hollywood, and Hollywood. The Northern Extension project will transform regional mobility by forming a new north-south regional connector enabling tens of thousands of transit riders to avoid the need to travel downtown to transfer by linking five existing Metro Rail lines from the South Bay to the San Fernando Valley. This level of connectivity and access to opportunity will benefit several underserved communities; link countless major employment, entertainment, medical, and cultural centers; and generate ridership in excess of 90,000 daily riders—higher than any light rail line in the Country.

Because of these and other project benefits, the Northern Extension project will help the region achieve the RTP's stated goals of reducing greenhouse gas emissions and vehicle miles travelled while locating employment and density near transit.





CITY OF
WEST HOLLYWOOD

In addition, the City of West Hollywood has revisions to the Draft Technical Report Project List:

- FTIP ID LAF9623 – This project is Phase I in a multiphase design district program including several other projects that should also be included. See enclosed Attachment 1 for a revised list of projects to be included in the final RTP/SCS.
- FTIP ID LA0G1052 – Remove this project as Metro has selected and is constructing an alignment along Wilshire Boulevard.
- Attachment 1 includes a revised list of additional projects to be included in the Final RTP/SCS to reflect our upcoming transportation investments.

If you have any questions, please contact Bob Cheung, Senior Transportation Planner, Long Range Planning Division at (323) 848-6346 or at bcheung@weho.org.

Sincerely,

JOHN LEONARD
Community and Legislative Affairs Manager
City of West Hollywood

Enclosures:

Attachment 1: Revised List of Additional Projects to be Included in the Final RTP/SCS

LOC-15

City	Project Title	Project Description	Spot Project or Corridor Project	Extent 1	Extent 2	Additional Geographic Information	Funding Status	Budgeted Cost	Anticipated Completion Year
West Hollywood	Fountain Ave. Pedestrian Improvements	High visibility crosswalks, Enhancement of existing crosswalks, Landscaping and streetscaping, Crossing RRFB, lighting, left-turn prohibition, Signal timing adjustments (leading pedestrian intervals/protected left turn phases), Traffic calming (buffer striping and parking lane planters), curb extensions	Corridor	Harper Ave. San Vicente Blvd. San Vicente Blvd.	Detroit St. Croft Ave. Doherty Dr.	Key interventions at Harper Ave., Hayworth Ave., Formosa Ave, and Detroit St.	No dedicated funding	\$9,130,000	<5 years
West Hollywood	DD Streetscape Phase I	Melrose Complete street upgrades: bulbouts, crosswalk enhancements, sharrows, landscaping and tree canopy, street furniture, sidewalk upgrades, lighting upgrades, public wifi and fiber optic (Sharrows portion est. \$34,000)	Corridor	San Vicente Blvd. San Vicente Blvd.	Doherty Dr.	Includes multiple streets	Some funding will be secured from 8899 Beverly and Robertson Lane public benefits	\$7,000,000	2021
West Hollywood	DD Streetscape Phase IV	Streetscapes - Melrose: San Vicente to Doherty, La Peer: SMB to Melrose, Almont: SMB to Melrose, & Robertson: Melrose to SMB (same treatments as Melrose Phase I) Beverly and Robertson South Complete street upgrades: Class II Bike Lane (Beverly, est. \$54,000), Sharrows (Robertson, est. \$17,000) bulbouts, crosswalk enhancements, landscaping and tree canopy, street furniture, sidewalk upgrades, lighting upgrades, public wifi and fiber optic	Corridor(s)	San Vicente Blvd. San Vicente Blvd.	Doherty Dr.	Includes two streets	14% funded with \$1 M from 8899 Beverly public benefit	\$6,000,000	2025
West Hollywood	DD Streetscape Phase VI	Citywide Unsignalized Crosswalk in-roadway Warning Lights	Corridor Spot(s)	San Vicente Blvd.	Doherty Dr.	Multiple sites citywide	No dedicated funding	\$750,000	<5 years
West Hollywood	Almont Dr. North/South Greenway	Greenway Three pedestrian crossing upgrades (unsignalized to RRFB): San Vicente Blvd & Library/PDC, San Vicente Blvd & Harritt St, La Cienega Blvd & Rosewood Ave. Six bicycle crossings: Holloway Dr & Palm Ave, Fairfax Ave & Willoughby Ave, Fountain Ave & Formosa Ave, La Cienega Blvd & Rosewood Ave	Corridor	Santa Monica Blvd.	Beverly Blvd.	Multiple sites citywide	No dedicated funding. Cost shown from BPMP, total cost for all Weho Greenways now anticipated to be \$2,019,600	\$440,000	>5 years
West Hollywood	Pedestrian and Bicycle Crossing Improvements	Willoughby Ave. East/West Greenway	Corridor	La Cienega Ave.	La Brea Ave.	60% LA 40% Weho	No dedicated funding. Cost shown from BPMP, total cost for all Weho Greenways now anticipated to be \$2,019,601	\$370,000	<5 years
West Hollywood	Santa Monica Blvd. Bike Lane paint, etc.	Transit Screens	Spot(s)	Almont Dr.	Doherty Dr.	Closes only reaminging gap from West LA to Kings Rd	No dedicated funding	\$250,000	2020
West Hollywood	Gardner Street/Vista Street Neighborhood Greenway	Greenway	Corridor	Fountain Ave. Santa Monica Blvd. Sunset Blvd.	Willoughby Ave. Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding. Cost shown from BPMP, total cost for all Weho Greenways now anticipated to be \$2,019,602	\$150,000	>5 years
West Hollywood	Westbourne Dr. Bike - friendly traffic diverters	Bike - friendly traffic diverters (2: North of Santa Monica and Beverly Blvd.)	Corridor	Sunset Blvd. Sunset Blvd.	City Limits	No dedicated funding	\$45,000	\$34,000	<5 years
West Hollywood	Holloway Dr. Bike Lane	Install Class II Bike Lane	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$31,000	\$25,600	>5 years
West Hollywood	Romaine St. Sharrows	Install Class III Bikeway (Sharrows)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$25,600		>5 years
West Hollywood	Crescent Heights Blvd. Uphill Bike Lane	Install Uphill Class II bike lane/downhill Class III bikeway (sharrows)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$31,000	\$25,600	>5 years
West Hollywood	Bike Friendly Traffic Diverters	Bike - friendly traffic diverter (1 between Sunset Blvd. and Holloway Dr.)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$25,000		<5 years
West Hollywood	Hilldale Ave. Bike - friendly traffic diverter	Bike - friendly traffic diverter (1 just south of Sunset Blvd.)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$25,000		<5 years
West Hollywood	Huntley Dr. Bike - friendly traffic diverter	Bike - friendly traffic diverter (1 at Beverly Blvd.)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$25,000		<5 years
West Hollywood	Olive Dr. Bike - friendly traffic diverter	Bike - friendly traffic diverter (1 between Sunset Blvd. and Fountain Ave.)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$25,000		<5 years
West Hollywood	Doherty Dr. Sharrows	Install Class III Bikeway (Sharrows)	Corridor	Cynthia St. Santa Monica Blvd. San Vicente Blvd.	Doherty Dr. Vicente Blvd. Cynthia St. Sunset Blvd.	Coordinate With LA and Beverly Hills	No dedicated funding	\$23,800	>5 years
West Hollywood	Cynthia St. Bike Lane	Install Class II Bike Lane	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$13,640	\$10,000	>5 years
West Hollywood	Doherty Dr. Uphill Bike Lane	Install Uphill Class II bike lane/downhill Class III bikeway (sharrows)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$13,640	\$10,000	>5 years
West Hollywood	Bicycle Repair Facilities	Bicycle repair facilities at 5 locations	Spot(s)	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$13,640	\$10,000	>5 years
West Hollywood	Crescent Heights Blvd. Sharrows	Install Class III Bikeway (Sharrows)	Corridor	Santa Monica Blvd. Sunset Blvd.	Multiple sites citywide	No dedicated funding	\$8,500		>5 years
West Hollywood	Santa Monica Blvd. Bike Lane High Visibility Markings	Install High Visibility Markings and Conflict Striping from Doherty to Kings	Corridors	Doherty Dr.	Kings Rd.	No dedicated funding			<5 years
West Hollywood	Fairfax Ave. Bike Lane High Visibility Markings	Install High Visibility Markings and Conflict Striping	Corridors	Doherty Dr.	Kings Rd.	No dedicated funding			<5 years
West Hollywood	San Vicente Blvd. Bike Lane High Visibility Markings	Install High Visibility Markings and Conflict Striping	Corridors	Doherty Dr.	Kings Rd.	No dedicated funding			<5 years
West Hollywood	Gardner St./Vista St. Bike Lane	Install Class II Bike Lane	Corridor	Fountain Ave. Willoughby Ave.	Will also include Greenway elements	No dedicated funding			<5 years

LOC-15

City	Project Title	Project Description	Spot Project or Corridor Project	Extent 1	Extent 2	Additional Geographic Information	Funding Status	Budgeted Cost	Anticipated Completion Year
West Hollywood	CNE Local Match	Local match for First/Last Mile improvements associated with new rail stations: minimum 3% match for Metro's Crenshaw line extension through West Hollywood. First/Last mile improvements are primarily pedestrian and bicycle amenities.	Spot(s)			Multiple sites citywide	No dedicated funding	\$66,000,000	
West Hollywood	Transit Expansion	Expand the Pickup Line, CityLine Commuter and CityLine Local services through procurement of additional vehicles.					No dedicated funding	\$17,009,485	
West Hollywood	Smart Parking Meters (real time pricing)	Implement an on-street intelligent parking program that includes dynamic demand-based pricing.	Corridors(s)			Citywide	No dedicated funding	\$6,790,000	
West Hollywood	On-demand transit pilot project (microtransit)	Plan and implement a one-year pilot program including procurement of vehicle and associated technology resources, and evaluation of pilot.					No dedicated funding	\$4,300,000	
West Hollywood	Smart Streetlights	Upgrade traditional street lights by deploying new, energy-efficient street lights with sensors that collect data to measure curbside activity (parking), pedestrian and bicycle activity, and vehicle activity	Corridors(s)			Multiple sites citywide	No dedicated funding	\$2,100,000	
West Hollywood	Comprehensive right-of-way & curbside management pilot program	Implement a curbside management pilot program to manage the curbside right-of-way.	Corridors(s)			Citywide	No dedicated funding	\$1,874,400	
West Hollywood	DD Streetscape Phase II	Melrose Gathering Space: convert excess travel lane and angled parking to pocket park, street amenities, and public art	Spot	Norwich Ave.	Huntley Dr.	May be extended 1 block	No dedicated funding	\$1,000,000	2021
West Hollywood	DD Streetscape Phase VII	Beverly Gathering Space: convert City parking lot to pocket park, street amenities, and public art	Spot	Robertson Blvd.	Bonner Dr.		100% funded with \$1 M from 8899 Beverly public benefit	\$1,000,000	2025
West Hollywood	Signal timing upgrades (N/S coordination, real time dynamic TMC)	Switch from the current analog traffic management system to digital for all 66 traffic cabinets in the city.	Spot(s)			Multiple sites citywide	No dedicated funding	\$660,000	
West Hollywood	EV Infrastructure & Charging	Construction of 8 on-street EV charging stations.	Spot(s)			Multiple sites citywide	No dedicated funding	\$542,200	
West Hollywood	V2X Connected Vehicle Infrastructure	Install Bluetooth technology at 25 intersections in the city as connected vehicle infrastructure.	Spot(s)			Multiple sites citywide	No dedicated funding	\$267,150	
West Hollywood	City Bus Services Electrification	Upgrade City transit services (CityLine, CityLine X, Weho Pick Up, Sunset Trip) to electric vehicles and install necessary charging infrastructure.				Multiple sites citywide	No dedicated funding		2030



CITY OF YORBA LINDA

4845 CASA LOMA AVENUE • YORBA LINDA • CALIFORNIA 92686

January 21, 2020

Kome Ajise
 Executive Director
 Southern California Association of Governments
 900 Wilshire Boulevard, Suite 1700
 Los Angeles, California 90017

Subject: Comments on Draft Connect SoCal Plan and PEIR

Dear Mr. Ajise:

The City of Yorba Linda appreciates the opportunity to review and provide feedback on the draft Connect SoCal Plan and its accompanying Program Environmental Impact Report (PEIR). We especially appreciate the opportunity SCAG provided through the Bottom-Up Local Input and Envisioning Process during 2017-2018. We recognize the significant amount of time, effort, and coordination it takes to put together a plan of this magnitude. Our primary concern with the Connect SoCal Plan is its inconsistency with the draft Regional Housing Needs Assessment (RHNA).

Specifically, the City offers the following public comments on Connect SoCal and its PEIR. We recognize that some of our comments are directly related to the draft RHNA methodology; however, we believe that these comments are relevant to Connect SoCal since SB 375 requires that SCAG "identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584." We also recognize that although neither Connect SoCal nor the RHNA have been adopted, as proposed these two plans will be inconsistent with one another. This is significant because Government Code 65584.04(m) requires that RHNA "allocate housing units within the region consistent with the development pattern included in the sustainable communities strategy."

- 1) The growth and need forecasted in RHNA is dramatically inconsistent with the draft Connect SoCal growth forecast. Section 3.14.1.1 of the draft PEIR defines *household* as "all the people who occupy a housing unit." This definition includes related and unrelated persons sharing a housing unit, including individuals living in overcrowded conditions. Table 14 of the Demographics and Growth Forecast Technical Report identifies a projected household growth for the City of Yorba Linda of 900 households between 2016 and 2045 (or 31 households per year). However, the draft RHNA projects the need for an additional 2,322 housing units between 2021 and 2029 (290 housing units per year). If RHNA is supposed to be consistent with the development pattern of Connect SoCal and SCAG only

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projects an additional approximately 250 households (31 units x 8 years) over the eight-year RHNA period for the City of Yorba Linda, why would RHNA project the need for 2,322 housing units over the same eight-year period? Even if it is assumed that all 900 projected households from Connect SoCal would happen by 2029, why would RHNA project the need for 2,322 housing units?

Furthermore, according to the 2019 Department of Finance Population and Housing Estimates, the City of Yorba Linda has 861 vacant housing units (3.6% vacancy rate). The City could easily accommodate the projected household growth of 250 households over the eight-year RHNA period through its existing vacant housing units and still have over 600 vacant housing units available without constructing any additional housing units. In other words, the proposed RHNA would essentially require the City to construct an additional 2,322 housing units plus utilize its 861 vacant housing units (a total of 3,183 housing units) to accommodate a projected population growth of 1,644 people and a projected household growth of 250 for the eight-year RHNA period. This is in direct conflict with Government Code Section 65080(b)(2)(B) and Government Code Section 65584.04(m) that require that Connect SoCal and RHNA be consistent with one another. Ironically, it is actually the SCAG staff recommended RHNA methodology from November 7, 2019, that much more closely aligns with the growth forecast and development pattern found within the Connect SoCal Plan.

- 2) It is also important to point out that Section 3.14.1.2 (Existing Population, Housing, and Employment) of the draft PEIR identifies four guiding principles that were not properly updated to reflect the latest draft from the October 17, 2019 Technical Working Group (TWG). The first principle should state, "The preferred scenario will be adopted at the jurisdictional level, and directly reflects the population, household and employment growth projections that have been reviewed and refined with feedback from local jurisdictions through SCAG's Bottom-Up Local Input and Envisioning Process. The preferred scenario maintains these locally informed projected jurisdictional growth totals, meaning future growth is not reallocated from one local jurisdiction."

The draft RHNA differs from the Connect SoCal growth forecast. As proposed, the projected household growth from Connect SoCal will be redistributed from one jurisdiction to another through the RHNA methodology, which conflicts with SCAG's guiding principle of not reallocating growth from one jurisdiction to another.

- 3) Sections 3.11.2.2 and 3.14.2.2 of the PEIR are incorrect in the explanation of RHNA. Pages 3.11-33 and 3.14-14 both state, "***The RHNA does not necessarily encourage or promote growth***, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment." Government Code Section 65584(a)(2) states, "It is the intent of the Legislature that cities, counties, and cities and

counties should undertake all necessary actions to **encourage, promote, and facilitate the development of housing** to accommodate the entire regional housing need, and reasonable actions should be taken by local and regional governments to ensure that future housing production meets, at a minimum, the regional housing need established for planning purposes." Furthermore, one of the five objectives of RHNA is "promoting infill development...the encouragement of efficient development patterns..." (see Government Code Section 65584(d)(2).

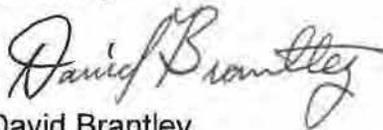
- 4) Pages 3.11-33 and 34 and page 3.11-15 of the PEIR state, "Per SB 375, the **projected need's portion** of the 6th Cycle RHNA will be consistent with the Connect SoCal for the comparable period." SB 375 requires that the RHNA, which includes both existing and projected housing need, be consistent with the Connect SoCal for the comparable period (see Government Code Section 65584.04(m)). RHNA should "allocate housing units within the region consistent with the development pattern included in the sustainable communities strategy." Please revise the explanation to state that the RHNA (including existing and projected need) will be consistent with the Connect SoCal.
- 5) Page 3.14-16 of the draft PEIR states, "The SCS must accommodate the **projected need portion** of the 6th Cycle RHNA." This statement is misleading in that Government Code 65080 states that the SCS must "identify areas within the region sufficient to house an eight-year projection of the regional housing need [existing **and** projected need] for the region." The PEIR also states, "While the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process." While the development pattern for the projected need portion of the RHNA (approximately 505,000 housing units) is clearly outlined in the PEIR and Connect SoCal Plan, the development pattern for the remaining approximately 835,000 housing units for "existing need" (approximately 62% of the total housing need) is not addressed in any specificity in the PEIR. For the City of Yorba Linda, it is completely unreasonable to assume that 2,322 new housing units are necessary to accommodate approximately 250 households through the upcoming RHNA cycle, or even to accommodate 900 households through 2045.
- 6) If the PEIR is supposed to evaluate the 'overall impacts of transportation projects and land use strategies described in the Plan' and to evaluate reasonable alternatives, the RHNA methodology is a reasonable alternative because each jurisdiction is going to have to zone for that amount of housing. The RHNA does not adhere to the jurisdictional totals set forth in the RTP/SCS growth forecast. The Intensified Land use Alternative may redistribute growth across jurisdictional boundaries, but it did not evaluate changes that were made due to disadvantaged communities and further household growth changes, and therefore population changes, due to a redistribution of the 'Residual' in the RHNA calculations. Therefore, wouldn't the draft RHNA methodology need to be evaluated as a reasonable alternative within the PEIR?

Draft Connect SoCal Plan and PEIR Comment Letter
January 21, 2020

- 7) Exhibit 1 of the Sustainable Communities Strategy Technical Report is described as "the growth vision and the forecasted regional development pattern." This exhibit is confusing and needs a better explanation. For example, do darker shades of blue represent higher priority growth areas?
- 8) Page 48 of the draft Connect SoCal Plan describes "absolute constraint areas" but the term is not defined within the glossary. Please include a definition for this term.
- 9) Several exhibits throughout the Plan and Technical Reports show the I-5 corridor between Anaheim and Mission Viejo as a High Quality Transit Area (HQTA); however, that corridor does not currently have any HQTA. Furthermore, the proposed Bus Rapid Transit (BRT) has not even had specific stop locations identified or evaluated by Orange County Transportation Authority (OCTA). Therefore, referring to the entire corridor as a HQTA is not appropriate. Please remove this from all exhibits.
- 10) The City also supports the comments made by the Orange County Council of Governments and Cal State Fullerton's Center for Demographic Research.

The City recognizes and appreciates the time and effort provided by everyone on this important and complex issue and for your consideration of these items. As far as we understand, this will be considered by the Regional Council on March 5, 2020. We also understand that at this same meeting the Regional Council will be discussing the RHNA methodology and RHNA appeals procedures. It is absolutely imperative that there is sufficient time for the Regional Council to discuss any questions or concerns with the Plan and its PEIR as well as the RHNA methodology and appeals. In order to avoid another rushed meeting agenda where Regional Council members are denied the opportunity to ask questions and provide comment, we strongly encourage SCAG to either reschedule the RHNA discussion to another date or extend the length of the meeting. Please let me know if you need any additional clarification or have any questions by contacting me at (714) 961-7130 or dbrantley@yorbalingca.gov.

Sincerely,



David Brantley
Community Development Director

cc: Mark Pulone, City Manager
Nate Farnsworth, Principal Planner
Deborah Diep, Center for Demographic Research

**Coalition For A Safe Environment
 California Kids IAQ
 Community Dreams
 EMERGE
 American Legion Post # 6
 Wilmington Improvement Network
 San Pedro & Peninsula Homeowners Coalition
 NAACP- San Pedro-Wilmington Branch # 1069
 St. Philomena Social Justice Ministry**

January 24, 2020

Southern California Association of Governments (SCAG)
 900 Wilshire Blvd., Ste. 1700
 Los Angeles, CA 90017
 213-236-1819
 2020PEIR@scag.ca.gov

Su: Draft Connect SoCal PEIR
 Re: Public Comments

The Coalition For A Safe Environment et al co-signature organizations respectfully submit these Public Comments on behalf of our members, organization affiliations and the public regarding the Draft Connect SoCal PEIR.

When reviewing the Draft Connect SoCal PEIR we discovered that the document was 3,005 pages in length. We also discovered that it was impossible to read, assess, discuss, seek expert opinion and comment on this 3,005 page document in 45 days.

1

We respectfully request a 30 extension for the public comment period. We will advise our elected officials of this request for an extension.

We did note that throughout the document there was a failure to identify, acknowledge and address the unique and disproportional impacts to Environmental Justice Communities and Disadvantaged Communities. As you are aware, there are now numerous Federal, State, Regional, County and City laws, executive orders, public policies, rules, regulations, ordinances and programs that address the subject of Environmental Justice Communities and Disadvantaged Communities that have legal mandates to comply.

2

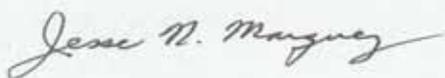
We request that a new section be added to the Draft PEIR that addresses the subject of Environmental Justice and Disadvantaged Communities.

Our public comment consists of a red mark-up of the original document with our requested changes, additional information and noted areas of required information. We have attached our public comments by Draft Connect SoCal PEIR Chapters to this public comment letter.

- 3.3 AIR QUALITY
- 3.11 LAND USE AND PLANNING

For additional information, Jesse N. Marquez is our principal contact person for these submitted public comments.

Respectfully Submitted,



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3.3 AIR QUALITY

This section of the Program Environmental Impact Report (PEIR) describes air quality within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect air quality, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”).

The U.S. EPA, California Air Resources Board and the South Coast Air Quality Management District describe air quality, environmental impacts and public health impacts from air quality based on three major categories of emissions:

- Criteria Air Pollutants
- Toxic Air Pollutants aka Hazardous Air Pollutants aka Toxic Air Contaminants
- Green House Gases

(Note: OEHHA is a health agency that uses the term Toxic Air Contaminants)

4

In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

3.3.1 DEFINITIONS

Air Dispersion: Air dispersion is defined as how air pollutants travel through ambient air. Toxic Air Contaminants/Mobile Source Air Toxics (TACs/MSATs) impact those located closest to the emission sources more than those located further away. A California law passed in 2003 (Public Resources Code Section 21151.8) prohibits the siting of a school within 500 feet of a freeway unless “the school district determines, through analysis based on appropriate air dispersion modeling, that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils.” The U.S. EPA has issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines.

Concentrations: The amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The following discussion identifies the pollutants included in this analysis.

Criteria Air Pollutants: Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards for outdoor concentrations. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort.

exhaust, which includes DPM is $5 \mu\text{g}/\text{m}^3$. This value is similar to the National Ambient Air Quality Standard established for fine particulate matter, which is $15 \mu\text{g}/\text{m}^3$.¹⁷

Cumulative Impacts

Emissions: The quantity of pollutants released into the air, measured in pounds per day (ppd) or tons per day (tpd).

GHG Greenhouse Gases – Components of the atmosphere that contribute to the greenhouse effect. The principal greenhouse gases that enter the atmosphere because of human activities are carbon dioxide, methane, nitrous oxide, and fluorinated gases.

Toxic Air Pollutants

Visibility: With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the California Ambient Air Quality Standards (CAAQS) for visibility reducing particles. (A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.)

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard.

3.3.2 ENVIRONMENTAL SETTING

The SCAG region encompasses a population exceeding 19 million persons in an area of more than 38,000 square miles within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Air quality in the four air basins in the SCAG region—South Coast Air Basin (SCAB), Mojave Desert Air Basin (MDAB), Salton Sea Air Basin (SSAB), and South Central Coast Air Basin (SCCAB) (Ventura

commercial areas. The MATES V study proposes to study air toxics for a one-year period at ten fixed sites beginning in January 2019.⁷³

You referenced the average cancer risk stated in the MATES IV Study but failed to reference Environmental Justice Communities whose cancer risk is 2x and 3x greater than the average and have not declined. We want to see a Table of the Highest Cancer Risk EJ Communities in the SCAB region. The SCAQMD intentionally manipulated the MATES V Study (a fact that is verifiable) and did not include Wilmington one of the highest Cancer Risk EJ Communities so as not to skew the data to the worse.

6

AB 32 Global Warming Solutions Act of 2006 - AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020 - a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario. Pursuant to AB 32, ARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste. Reductions in GHG emissions will come from virtually all sectors of the economy and will be accomplished from a combination of policies, planning, direct regulations, market approaches, incentives and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources

7

This Draft PEIR is in non-compliance with AB 32 because SCAG rubber-stamps and approves all projects and it does not require transportation and infrastructure projects to comply.

AB 617 Nonvehicular air pollution: criteria air pollutants and toxic air contaminants - This bill would require the state board, by October 1, 2018, to prepare and update, at least once every 5 years, a statewide strategy to reduce emissions of toxic air contaminants and criteria pollutants in communities affected by a high cumulative exposure burden. The bill would require the state board to select locations around the state for the preparation of community emissions reduction programs, and to provide grants to community-based organizations for technical assistance and to support community participation in the programs. The bill would require an air district containing a selected location, within one year of the state board's selection, to adopt a community emissions reduction program. By increasing the duties of air districts, this bill would impose a state-mandated local program. This bill would require a district that is in nonattainment for one or more air pollutants to adopt an expedited schedule for the implementation of best available retrofit control technology, as specified. The bill would require the schedule to apply to each industrial source that, as of January 1, 2017, was subject to a specified market-based compliance mechanism and give highest priority to those permitted units that have not modified emissions-related permit conditions for the greatest period of time. The bill would require an air district containing a selected location, within one year of the state board's selection, to adopt a community emissions reduction program. By increasing the duties of air districts, this bill would impose a state-mandated local program.

8

This Draft PEIR is in non-compliance with AB 617 because SCAG rubber-stamps and approves all projects and it does not require transportation and infrastructure projects to comply. The Draft PEIR does not require community emission reductions from stationary and mobile sources in projects. 10 AB 617 Pilot Project Communities have already completed and submitted their Community Emissions Reduction Plans in conjunction with their local AQMD.

SB 44 requires CARB to create a comprehensive plan for reducing greenhouse gas emissions from medium- and heavy-duty vehicles.

SB 210 – The bill requires the California Air Resources Board (CARB) to develop and implement a Heavy-Duty Inspection and Maintenance Program for non-gasoline, heavy-duty trucks—the first ‘smog check’ program of its kind in the nation. The bill would remove levels of oxides, nitrogen and particulate matter from the air equivalent to removing 375,000 trucks from California roads by 2031. A “smog check” for trucks would also help prevent thousands of cases of asthma and respiratory diseases that disproportionately impact economically disadvantaged neighborhoods near major highways and freight hubs.

SB 375 Sustainable Communities and Climate Protection Act of 2008 - The bill requires the regional transportation plan for regions of the state with a metropolitan planning organization to adopt a sustainable communities strategy, as part of its regional transportation plan, as specified, designed to achieve certain goals for the reduction of greenhouse gas emissions from automobiles and light trucks in a region. The Bill focuses on incentivizing regional and local planning and building in ways that bring people and destinations closer together, with low-carbon, alternative and convenient ways to get around. It requires regional metropolitan planning organizations in California to develop Sustainable Communities Strategies (SCS), or long-range plans, which align transportation, housing, and land use decisions toward achieving GHG emissions reduction targets set by the California Air Resources Board (CARB).

This Draft PEIR is in non-compliance with AB 375 because SCAG rubber-stamps and approves all projects and it does not require transportation, infrastructure, housing and land use projects to comply.

9

Senate Bill 656 (Chapter 738, Statutes of 2003)

In 2003, the Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM10 and PM2.5. SB 656 required ARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by ARB and the air districts to reduce PM10 and PM2.5 (collectively referred to as PM).⁷⁴

The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for PM2.5, and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal PM2.5 attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress towards attaining California’s more health protective standards. This list of air district control measures was adopted by the ARB on November 18, 2004. ARB also developed a list of State PM control measures for mobile and stationary sources, including measures planned for adoption as part of ARB’s Diesel Risk Reduction Plan. The lists are at the following web site: <http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm>.

California Air Resources Board Mobile Source Programs

Emission Reduction Plan for Ports and Goods Movement

Our County - Los Angeles Countywide Sustainability Plan - OurCounty is organized around 12 cross-cutting goals that describe our shared vision for a sustainable Los Angeles County.

Goal 1: Resilient and healthy community environments where residents thrive in place The County will protect low-income communities and communities of color from pollution, reduce health and economic inequities, and support more resilient and inclusive communities.

Goal 2: Buildings and infrastructure that support human health and resilience The buildings and infrastructure of both yesterday and tomorrow will utilize more efficient technologies and practices that reduce resource use, improve health, and increase resilience.

Goal 3: Equitable and sustainable land use and development without displacement With policy tools such as anti-displacement measures, existing community members can remain in and strengthen their neighborhoods and networks while accepting new residents through more compact, mixed-use development.

Goal 4: A prosperous LA County that provides opportunities for all residents and businesses and supports the transition to a green economy We will support the growth of green economy sectors through our procurement practices, land use authority, and various economic and workforce development incentives.

Goal 5: Thriving ecosystems, habitats, and biodiversity The region's ecosystems, habitats, and biodiversity are under stress from urbanization and climate change. Careful planning will ensure that our ecosystems, including urban habitats, thrive even as our region becomes increasingly urbanized.

Goal 6: Accessible parks, beaches, recreational waters, public lands, and public spaces that create opportunities for respite, recreation, ecological discovery, and cultural activities The County will help make parks and public lands more accessible and inclusive and will manage them carefully so that all residents may enjoy their benefits.

Goal 7: A fossil fuel-free LA County By supporting an efficient transition to a zero emission energy and transportation system, the County will be a leader in taking action to address the climate crisis. **EXAMPLE TARGET: BY 2050, ACHIEVE CARBON NEUTRALITY**

Goal 8: A convenient, safe, clean, and affordable transportation system that enhances mobility while reducing car dependency By developing programs that focus on reducing the number of miles people travel in private vehicles, the County will help people choose alternatives to single-occupancy vehicles. These programs will expand residents' mobility, including those residents whose limited automobile access translates to stifled economic opportunity.

Goal 9: Sustainable production and consumption of resources The County will effectively manage our waste, water, energy, and material resources by improving our ability to promote integrative and collaborative solutions at the local and regional scale.

Goal 10: A sustainable and just food system that enhances access to affordable, local, and healthy food The County of Los Angeles will leverage its capital assets, public services, and regulatory authority to improve access to healthy food within County boundaries while optimizing its purchasing power and business services to make food production more sustainable.

Goal 11: Inclusive, transparent, and accountable governance that facilitates participation in sustainability efforts, especially by disempowered communities The County will act to create a more inclusive and accountable governance structure, in order to build stronger communities and better-informed policy and programs.

Goal 12: A commitment to realize OurCounty sustainability goals through creative, equitable, and coordinated funding and partnerships The County will seek to strengthen partnerships, establish new funding techniques, and leverage its own purchasing power to advance the goals of OurCounty.

This Draft PEIR is in non-compliance with Our County - Los Angeles Countywide Sustainability Plan because SCAG rubber-stamps and approves all projects and it does not require compliance to the 12 Goals.

3.3.4 ENVIRONMENTAL IMPACTS

in order to estimate emissions from mobile sources and includes County-specific data, such as fleet mix in order to estimate criteria air pollutants. See **Appendix 3.3, Health Risk Assessment Technical Report**, for more detail.

In *California Building Industry Association (CBIA) vs. Bay Area Air Quality Management District (BAAQMD)*, the California Supreme Court ruled that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents unless the proposed project risks exacerbating those environmental hazards or conditions that already exist.¹²²

Therefore, emissions from the existing transportation network, including freeways, are generally not considered impacts under CEQA unless the project exacerbates the existing environmental conditions.¹²³ Since Connect SoCal includes transportation projects, including freeway improvements, that could occur within 500 feet of sensitive receptors (thereby exacerbating an existing condition), this section analyses the risk posed from existing freeways on sensitive receptors.

The mitigation measures in the PEIR are divided into two categories: SCAG mitigation and project-level mitigation measures. SCAG mitigation measures shall be implemented by SCAG over the lifetime of the Plan. For projects proposing to streamline environmental review pursuant to SB 375, SB 743, or SB 226 (as described in **Chapter 1.0, Introduction**), or for projects otherwise tiering off this PEIR, the project-level mitigation measures described below (or comparable measures) can and should be considered and implemented by Lead Agencies and Project Sponsors during the subsequent, project- or site-specific environmental reviews for transportation and development projects as applicable and feasible. However, SCAG cannot require implementing agencies to adopt mitigation, and it is ultimately the responsibility of the implementing agency to determine and adopt project-specific mitigation.

However, SCAG can:

- Review and submit written public comments on projects.
- Identify areas of non-compliance with CEQA requirements.
- Not include projects on its state and federal funding list.
- Recommend mitigation measures.
- File motions to intervene on projects not in compliance with CEQA, RTP and the public interests.

(Example: The Port of Los Angeles BNSF Southern California Gateway Intermodal Project EIR that was approved by the Port of Los Angeles Board of Harbor Commissioners and the City of Los Angeles did not comply with CEQA and five class action lawsuits were filed with the State Attorney General filing a Motion to Intervene on behalf of the Plaintiffs. The City of Long Beach, Long Beach Unified School District and the South Coast AQMD were co-plaintiffs with non-profit environmental justice organizations and public interest groups. The Port and City of LA were found guilty and the project stopped.)

Connect SoCal would result in a less than significant impact to air quality related to the potential to conflict with or obstruct implementation of the adopted SIPs/AQMPs/Attainment Plans in the SCAG region because the projected long-term emissions are in alignment with the local SIPs/AQMPs as demonstrated in the transportation conformity analysis, found in the Conformity Technical Report for the Plan.¹²⁴ The emissions resulting from the Plan are within the applicable emissions budgets as stated in the SIPs/AQMPs for each nonattainment or maintenance area for all milestone, attainment, and planning horizon years.

Significant Impact.

The Connect SoCal PIER will result in significant impact to air quality because SCAG automatically and programmatically approves all projects and lists projects for state and federal funding that do not comply with all federal, state, regional, county, local laws, rules, regulations, plans and programs. SCAG has a legal mandate to support compliance.

SCAG and the Connect SoCal PIER does not have the resources and capacity to evaluate all projects for compliance with all federal, state, regional, county, local laws, rules, regulations, plans and programs. SCAG has a legal mandate to support compliance.

SCAG and the Connect SoCal PIER have no criteria and metrics to evaluate project compliance with air quality and greenhouse gas reduction requirements in laws, rules, regulations, plans and programs. SCAG and the Connect SoCal PIER cannot rely on the California Air Resources Board and the Air Quality Management District SIP's for compliance. SCAG has a legal mandate to support compliance.

The last California and South Coast AQMD SIP's were rejected by the U.S. EPA for non-compliance. SCAG and the Connect SoCal PIER does not the resources and capacity to evaluate all projects or proposed SIP's for compliance with all federal and state SIP requirements. SCAG has a legal mandate to support compliance.

SCAG and the Connect SoCal PIER has the authority and mandate to identify and recommend mitigation for project EIR/EIS/EA's etc. that claim that they are "Significant and Unavoidable".

Example I: Zero Emission Electric Buses are currently available for all public transportation needs.

Example II: Zero Emission Electric Trains are currently available for all public transportation needs.

Example III: Zero Emission Heavy Duty and Light Duty Freight On-Road and Off-Road Trucks are currently available for all Short Hauls of less than 100 miles.

Example IV: Zero Emission Construction Equipment is currently available for 90% of all categories.

Example V: Zero Emission Electric Power is currently available for all lighting categories.

Example VI: Zero Emission VOC Paints are currently available.

Example VII: Emissions Capture & Treatment Technologies are available for all Freight Ship categories. AMECS-Advanced Maritime Emissions Control System, a CARB Certified Technology.

As described in the Regulatory Framework, when a region is in nonattainment for any of the six criteria air pollutants relative to the NAAQs, the federal CAA requires states to develop SIPs to achieve the federal standard. The AQMPs are required as part of the SIP. Within the SCAG region, the 8-hour federal ozone standard is designated as nonattainment for all six counties. San Bernardino, Riverside, Orange, Los Angeles, and Imperial Counties are all designated as nonattainment for PM_{2.5}. Additionally, San Bernardino, Riverside, and Imperial Counties are designated as nonattainment for PM₁₀. As a result, all the SIPs in the SCAG region focus on reducing ozone emissions and may also focus on particulate matter pollution. The following air quality plans are applicable to Connect SoCal: 2016 SCAQMD Air Quality Management Plan (AQMP), AVAQMD Federal 75 ppb Ozone Attainment Plan (2017), MDAQMD Federal 75 ppb Ozone Attainment Plan (2017), 2016 Ventura County Air Quality Management Plan, and Imperial County 2018 Annual PM_{2.5} State Implementation Plan.

The goals of the air quality management plans and attainment plans are to establish a strategy for achieving the standards by a set date by listing all feasible control measures, including transportation control measures. These control measures help advance the attainment date and are financially, economically, and socially feasible. As standards become more stringent over time, achieving the standards becomes a moving target that the air quality districts, and air-related plans must continue to chase. At this current snapshot of time (2019), the Plan would not conflict with the existing air-related plans since it will align with feasible Transportation Control Measures (TCMs). SCAG coordinates with air districts in the region to ensure that air quality management plans (and air pollution control plans) are consistent and comprehensively address air pollution from all sources (as appropriate) in the SCAG region. For example, the 2016 SCAQMD AQMP was developed in alignment with the 2016 RTP/SCS, incorporating the latest scientific, technological, and regulatory information and planning assumptions as of January 17, 2017.¹²⁵

¹²⁴ Southern California Association of Governments. 2019. *Transportation Conformity Analysis Draft Technical Report*.

¹²⁵ SCAQMD. 2015. *2016 AQMP Updates Coordination with SCAG & CARB*. Available online at: http://www.aqmd.gov/docs/default-source/Agendas/STMPR-Advisory-Group/stmpr_073015_5.pdf, accessed October 29, 2019.

As the scientific methods for the study of air pollution health effects have progressed over the past decades, adverse effects have been shown to occur at lower levels of exposure. For some pollutants, no clear thresholds for effects have been demonstrated. The new findings have, in turn, led to the revision and lowering of National Ambient Air Quality Standards (NAAQS) which, in the judgment of the Administrator of the U.S. EPA, are necessary to protect public health. Chapter 8 of the draft 2016 AQMP provides an overview of the extensive, multi-year, public process involved in setting federal air quality standards. Assessments of the scientific evidence from health studies is an important part of the process, and has helped inform revisions to the federal air pollution standards. Figures [included in the AQMP] are meant to convey some of the historical context to recent revisions to the NAAQS for ozone and for particulate matter, with regard to key developments in the understanding of the health effects of these pollutants.

Mitigation Measures

SCAG Mitigation Measures

SMM-AQ-1: SCAG shall develop the Southern California Disadvantaged Communities Planning Initiative which would provide funds to selected applicants to develop a low-cost, high- impact model which leverages SCAG's staff, data, and outreach resources to deliver context-sensitive plans in high-need, low-resourced active transportation infrastructure and frameworks. As part of the initiative, the model will be operationalized through the development of plans in six communities and refined to provide a sustainable resource for SCAG staff partner with local agencies to develop local active transportation plans.

SMM-AQ-2: SCAG shall continue its commitment to analyze public health outcomes as part of Connect SoCal. As part of the public health analysis for the Plan, SCAG shall continue to analyze the Plan's impacts on air quality through its Public Health Working group and continue to support policy change at the city and country level through education programs.

SMM-AQ-3: SCAG shall continue to conduct air quality-related technical analyses on the region, specifically in vulnerable areas that are typically environmental justice areas. For example, SCAG staff conducted technical analysis of emissions impacts on populations within 500 feet of freeways and highly travelled corridors in the Connect SoCal Environmental Justice Appendix. SCAG staff shall also continue to work with districts and relevant stakeholders to be informed of any updates new and/or changes to air quality issue areas through various forums like the Environmental Justice Working Group.

SMM-AQ-4: SCAG shall develop and fund a Zero Emissions Technology Clearing House which will identify all currently available Zero Emissions Technologies.

- SMM-AQ-5:** SCAG shall develop and fund an Emissions Capture and Treatment Technology (ECT) Clearing House which will identify all currently available ECT Technologies for unique industries.
- SMM-AQ-6:** SCAG can request a project include a Health Impact Assessment to determine the current public health status and to establish a Public Health Baseline to assure that proposed Mitigation Measures and other proposed polices and measures do in fact improve public health. Health Risk Assessments (HRA's) only tell you how many people might die due to a project.

Project Level Mitigation Measures

PMM-AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Minimize land disturbance.
- b) Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- c) Cover trucks when hauling dirt.
- d) Stabilize the surface of dirt piles if not removed immediately.
- e) Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- f) Minimize unnecessary vehicular and machinery activities.
- g) Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- h) Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- i) On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
- j) Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction

the differences in sensitivity to carcinogens during early life exposure. OEHHA recommends a default ASF of 10 for the age range between the third trimester of pregnancy through two years, and an ASF of three for ages two through 15 years.

As a conservative measure to characterize maximum potential exposures of sensitive receptors to carcinogenic risks, residential exposures are assumed to begin in the third trimester and exposures of children at schools is anticipated to begin at the lowest educational grade level. The OEHHA guidance provides recommended DBR values that are specific to the age of the receptor and the type of activity in which the receptor would be engaged during exposure, which are evaluated on a case-by-case basis. Air districts in the SCAG region (including SCAQMD) have not adopted guidelines to implement the 2015 OEHHA HRA guidelines for construction and indicated it is currently considering how to implement the guidelines. Only one air district -- the San Joaquin Valley Air Pollution Control District -- appears to have adopted guidelines to implement the 2015 OEHHA HRA guidelines. BAAQMD is undergoing a process to implement guidelines as well.

The specific size and location of future construction activity within the SCAG region is not known, (Not True SCAG maintains a list of 100's of proposed projects with descriptions within its jurisdiction) and therefore many variables related to characterizing potential exposures to air toxics during construction activities could not be determined, such as proximity to the emissions sources and duration of exposure. Connect SoCal's Project List (See **Appendix 2.0**) includes transportation projects through 2045, however a construction health risk analysis would be speculative given the lack of a construction location and construction activities. However, it is reasonable to assume that some level of construction activity would occur adjacent to sensitive receptors (e.g., residences and schools). The significant construction emissions identified above, could result in adverse health effects to sensitive receptors. As such, it is likely that intense construction activities (e.g., from development projects that involve a high volume of haul trucks) would exceed the health risk significance thresholds due to equipment and truck exhaust emissions. This is considered a significant impact related to substantial pollutant concentrations during construction activities.

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On-Road Mobile-Source Emissions

Mobile source (heavy-duty truck) diesel emissions, specifically DPM, are the primary source of health concern in most urban areas in the SCAG region. Mobile DPM emissions in the SCAG region are anticipated to decrease as compared to existing conditions. Additionally, from 2019 to 2031, passenger and light daily truck PM_{2.5} is expected to remain constant, while heavy-duty PM_{2.5} emissions

3.11 LAND USE AND PLANNING

This section of the Program Environmental Impact Report (PEIR) describes the existing land use characteristics within the SCAG region, identifies the regulatory framework with respect to laws and regulations that affect land use and planning, and analyzes the potential impacts of the Connect SoCal Plan (“Connect SoCal”; “Plan”). In addition, this PEIR provides regional-scale mitigation measures as well as project-level mitigation measures to be considered by lead agencies for subsequent, site-specific environmental review to reduce identified impacts as appropriate and feasible.

In 2019 the Tishman Environment and Design Center published a report titled. “Local Policies For Environmental Justice: A National Scan.” The report provides a comprehensive look at recent efforts in 23 cities, three counties and two utilities across the United States to address environmental injustices through innovative reforms of zoning, land use, and other local policies.

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The Draft PEIR fails to reference the California Air Resources Board - AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE, April 2005.

16

The Draft PEIR fails to reference the South Coast AQMD - Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning,” May 6, 2005.

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We request that SCAG reference relevant information and incorporate mitigation measures that address project impacts in these three documents.

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3.11.1 ENVIRONMENTAL SETTING

3.11.1.1 Definitions

Agricultural Lands Land designated for farming; specifically the production of crops and rearing of animals to provide food and other products.

Air Quality Management Plans: The Air Quality Management Plan (AQMP) is a plan prepared by local air districts and is a regional blueprint for achieving air quality standards and healthful air.

Buffer Zone:

Carbon Sequestration The ability for natural elements such as forests, soils and oceans to store carbon instead of releasing it into the atmosphere, preventing GHG Emissions.

Clean Up Green Up Supplemental Use District – Los Angeles Municipal Code Ordinance to reduce cumulative health impacts resulting from incompatible land uses, establish a citywide Conditional Use for asphalt manufacturing and

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refinery facilities, and increase the notification requirement for projects within a surface mining district within Boyle Heights, Pacoima/Sun Valley, and Wilmington.

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Complete Communities Suburban communities that provide a mix of land uses in strategic growth areas, wherein most daily needs can be met within a short distance of home. Complete communities provide residents with the opportunity to support their local area and run daily errands by walking or bicycling rather than traveling by automobile.

Cumulative Impact:

Disadvantaged Community:

Environmental Justice Community:

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Established Community: Refers to a place where there are existing populations of people that have been living in that place for some period of time. The term is used in Appendix G of the *CEQA Guidelines* under the land use thresholds of significance

Farmland: §21060.1(a) of CEQA (Public Resources Code §§21000-21177) delineates the consideration of agricultural land to include “prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture (USDA) land inventory and monitoring criteria,

*Mitigation Measures*SCAG Mitigation Measures

SMM LU-1: SCAG shall coordinate with local County Transportation Commissions, Caltrans and other implementing agencies when siting new facilities or expanding existing facilities in, adjacent or near residential areas to facilitate minimizing future impacts of transportation, warehousing, air pollution emission facility projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts to promote best planning practices.

SMM LU-2: SCAG shall coordinate with local cities and their planning, transportation and environment departments and commissions when siting new facilities or expanding existing facilities in, adjacent or near residential areas to facilitate minimizing future impacts of transportation, warehousing, air pollution emission facility projects on established communities, through cooperation, information sharing, and regional program development as part of SCAG's ongoing regional planning efforts to promote best planning practices.

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Project Level Mitigation Measures

PMM LU-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Facilitate good design for land use projects that build upon and improve existing circulation patterns
- b) Encourage implementing agencies to orient transportation projects to minimize impacts on existing communities by:
 - Selecting alignments within or adjacent to existing public rights of way.
 - Design sections above or below-grade to maintain viable vehicular, cycling, and pedestrian connections between portions of communities where existing connections are disrupted by the transportation project.
 - Wherever feasible incorporate direct crossings, overcrossings, or under crossings at regular intervals for multiple modes of travel (e.g., pedestrians, bicyclists, vehicles).

From: Cynthia Robin Smith <diamondbarbeautiful@gmail.com>

Sent: Friday, January 24, 2020 4:58 PM

To: 2020 PEIR <2020PEIR@scag.ca.gov>

Subject: Comments SCAG Connect SoCal Plan + PEIR

Attached, find public/independent comments for the SCAG Connect SoCal Plan and the Program Environmental Impact Report, due by January 24, 2020, 5 p.m. Please put this data on the public record also.

Dear Sirs,

Thank you for the opportunity to provide comments and technical information pertaining to the City of Diamond Bar, conservation/open space element, general plan 2040 input.

Please be advised, at present, we see no biological elements, natural open space nor special status species present on your map for the City of Diamond Bar, and the SEA 15 area to the south, including Tonner Canyon and the Puente Chino Hills Wildlife Corridor.

Attached is a comments letter along with scientific biological reports on existing conditions in these areas. Please update your information as per this input.

Thank you.

C. Robin Smith, Chair

Diamond Bar - Pomona Valley Sierra Club Task Force, Angeles Chapter

Cynthia "**Robin**" Smith, Editor, Research & Development, Naturalist

Diamond Bar Is Beautiful Blog: www.diamondbarisbeautiful.com

California Native Trees, Landscapes: Wildlife Habitat Conservation

Diamond Bar - Pomona Valley Sierra Club Task Force, Chair

A Public Benefit, Non-Profit Organization

324 S. Diamond Bar Blvd., #230

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(213) 387-4287
phone

Diamond Bar – Pomona Valley Sierra Club Task Force

January 24, 2020

Draft Connect SoCal Plan Comments
Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Comments for PEIR, Natural & Farmlands Conservation

Dear Connect SoCal Team:

Thank you for the opportunity to comment on the Southern California Association of Governments 2020 Regional Transportation Plan and Sustainable Community Strategy, collectively called *Connect SoCal*.

The Diamond Bar – Pomona Valley Sierra Club Task Force, Angeles Chapter, has worked since 2018, to recognize, conserve and restore wildlife habitats, corridors and natural resources in the City of Diamond Bar and surrounding areas. We wholeheartedly believe in first, “doing no harm” to existing natural lands conditions, whilst prioritizing “natural climate solutions” through the conservation and restoration of local green belts, watersheds, residential landscapes, parks and open spaces. Our task force is proud to participate in the growing SCAG plan coalition in 2020.

The Diamond Bar – Pomona Valley Sierra Club Task Force, Angeles Chapter, is a community service/public benefit non-profit group, serving Los Angeles County, and the cities of Diamond Bar, Pomona, Walnut, Rowland Heights, La Verne, Claremont, San Dimas, Glendora and Chino Hills. Our mission is to educate, advocate environmental literacy and ecological integrity at the local level in conserving wildlife habitats, natural landscapes, watersheds, wetlands, California Native residential gardens, public parkland and natural open spaces.

We have had important successes since our inception, including the official mapping of rare and endangered species (California Gnatcatcher, Cactus Wren, Golden Eagle) in the City of Diamond bar, and creating a conservation element report: City of Diamond Bar Biological Resources Report by Hamilton Biological, which informs the city’s 2040 General Plan update.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

Natural Communities Map Correctives

At reviewing the PEIR and Natural & Farmlands habitat, special status species and wildlife movement maps, we noticed your data does not include the latest, updated biological information for the City of Diamond Bar, SEA 15 and the surrounding natural land areas.

We request that your drafts be corrected and updated by referring to the attached biological report and map, “City of Diamond Bar Biological Resources” report and “City of Diamond Bar, Natural Communities” map, dated February 25, 2020. These documents are referred to in the city’s recently adopted General Plan 2040 and are on record with the California Dept. Fish Wildlife Region 5 and the United States Fish and Wildlife Service.

Most notable updates should include the special status species “California Gnatcatcher,” which maps an old, established populations distributed throughout the city due to its quality coastal scrub habitats.

3

Prioritizing Natural Climate Solutions

We are pleased to see conservation of our natural and agricultural lands as one of the 10 main policies of Connect SoCal. Land preservation not only reduces greenhouse gas (GHG) emissions, but also sequesters carbon. Any investment in habitat restoration improves this sequestration potential as well. Natural lands (*green infrastructure*) are a proven “natural climate solution” and key to preserving quality of life and authentic community sustainability. We believe including land conservation is a step in the right direction. SCAG has demonstrated that Metropolitan Planning Organizations can play a vital, thoughtful, and science-based role in mitigating impacts to our natural environment from transportation, infrastructure, and other development projects. By incorporating natural and farmlands protection strategies into your policy document, we believe the many benefits of this broad-based conservation approach will be realized sooner than expected. Thank you for your leadership.

4

Mechanisms for Saving Natural Open Spaces – Wildlife Habitats

Our organization supports the idea that as new growth occurs it should be focused in existing city-centers and near transit. When developments are built in the city center, it relieves pressure from the fringe. However, the Plan fails to outline precisely how (or with what conservation mechanism) these fringe lands (or any lands) will actually be

protected. Relieving pressure by focusing development elsewhere, does not automatically conserve or protect natural lands. A growing alliance of numerous organizations, including ours, focus work on protecting important habitat lands. Much time, energy, money, strategy, and political will are combined to create a successful conservation transaction that leads to permanently-conserved lands. Further, just because local agencies may be contributing to the conservation arena, in no way should you discount the roles of the conservation non-profit community. In short, SCAG must identify the actual mechanism, process or plan on how the greenfields and agricultural lands will be protected.

The Benefits of Conservation

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, protection of cultural and archeological sites, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands also filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water resources.

Wildlife corridors are getting more and more attention these days. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain ecological functions, be sustainable over the long term, and include plans for long-term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land. Natural landscapes are neglected due to regarding landscapes from only “aesthetic uses” attitude. Realizing the big picture by ensuring open spaces are connected to one another is essential for species survival and building authentic, sustainability. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as drought, fire, flood or landslide, and improve the resiliency in the face of climate extremes impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors *prior to commencing* impactful projects.

Coastal & Riparian Assets

Many non-profits are working to ensure additional bays, estuaries, wetlands, bluffs, and beaches are preserved forever. Additionally, one way our coasts are connected to inland areas are through our watersheds, rivers and streams. These riparian areas serve as recreational trail corridors, water recharge and infiltration locations, and serve as places our wildlife use for watering sources. However, transportation and land use generated urban runoff are still problems. Our beaches and coastline are inundated with pollution. Litter, debris, and pollutants should be decreased prior to reaching the coast. Ensuring everyone has a positive experience on the sand and in the surf should be our goal, but we need to address Southern California's trash problem.

The Benefits of Habitat Restoration

California is one of 36 biodiversity hotspots on earth! This means, the unique ecosystem diversity of our state is rare and one of the most threatened by human activities. The health of California ecosystems affects the globe for good or ill, as well as local communities.

One key way to improve the environment is through restoration projects. These can be on land, in riparian areas, and even in the ocean. Restoration provides benefits by adding native plants, removing the non-native plants and their seedbank, as well as increasing carbon storage, and providing improved habitats for our wildlife. Our environment benefits from these improvements, as do our watersheds, our air, and our communities. Having improved habitats means that our water is cleaner, our soils won't erode as easily, it creates jobs for local residents, and our unique biodiversity is maintained. Further, the many endemic and threatened/endangered plants and animals benefit from these restoration projects as well. Thank you for including restoration as a key component in the natural lands and agricultural policy.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I am available at your convenience. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to

Sincerely,

Robin Smith

C. "Robin" Smith, Chair

Resources & Attachment: Hamilton Biological, "City of Diamond Bar Biological Resources Report" + "City of Diamond Bar, Natural Communities map"

Diamond Bar – Pomona Valley Sierra Club Task Force

324 S. Diamond Bar Blvd. #230

C. Robin Smith, Chair 909-861-9920 Desk

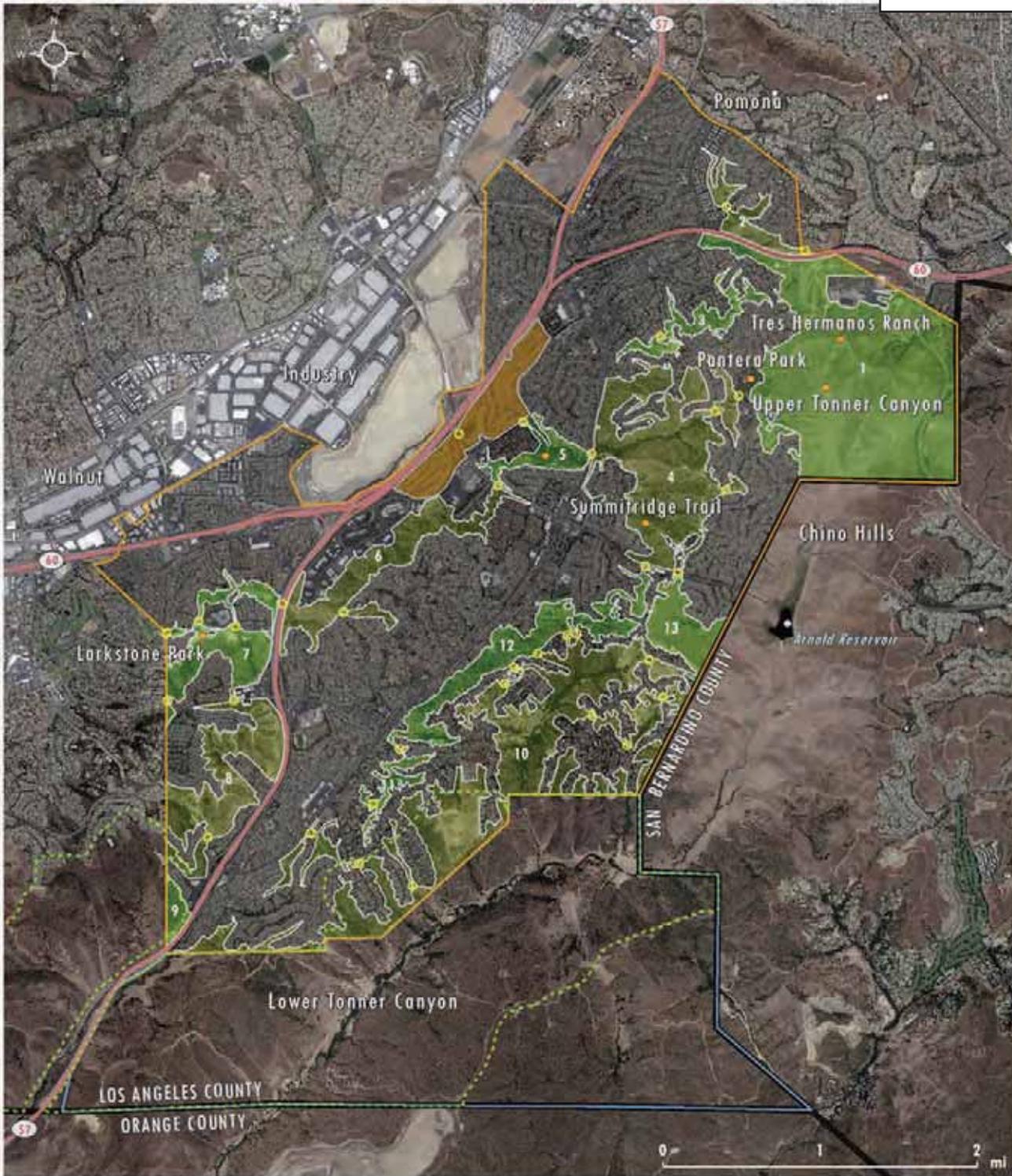
eMail: DBPVSierraClubTaskForce@gmail.com

 **Diamond Bar – Pomona Valley Sierra Club Task Force**

City of Diamond Bar

BIOLOGICAL RESOURCES Natural Communities

ORG-2



5

Natural Open Space Areas

-  Diamond Bar City Limits
-  Sphere of Influence
-  Diamond Bar Golf Course
-  County Line
-  Natural Open Space Area
-  SEA 15
-  Potential Habitat Linkages/Choke Points



HAMILTON BIOLOGICAL

World Image Basemap (Clarity) from ESRI, 2017. North American Primary Roads from ESRI, 2018. County Boundary from USGS. Diamond Bar City Limits, Significant Ecological Area (SEA prior OVOV / AV / GP adoption) Digitized from Los Angeles County, 2015. Map Projection: Universal Transverse of Mercator. Datum: WGS84. Map Scale 1:65,000. Graphic Scale Units: Miles.

The City of Diamond Bar natural open spaces are identified by "Natural Communities" (also known as "plant communities" or "vegetation types") that occur in the city and its Sphere of Influence (i.e., Tonner Canyon/Significant Ecological Area 15, located in unincorporated Los Angeles County south of the city limits. Natural living ecosystems do not recognize man-made boundaries.)



ANNUAL AND PERENNIAL GRASSLANDS, VERNAL POOLS/SEASONAL POOLS

Natural Open Space Areas: 1, 2, 6, 8, 10, 13, Sphere of Influence



COASTAL SAGE SCRUB, OPUNTIA LITTORALIS SHRUBLAND

Natural Open Space Areas: 1, 4, 7, 8, 10, Sphere of Influence



CHAPARRAL

Natural Open Space Areas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, Sphere of Influence



COAST LIVE OAK WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 3, 4, 6, 7, 8, 10, 11, 12, Sphere of Influence



CALIFORNIA WALNUT WOODLAND, SAVANNAH

Natural Open Space Areas: 1, 2, 4, 5, 6, 10, 12, Sphere of Influence



RIPARIAN SCRUB AND WOODLANDS

Natural Open Space Areas: 1, 4, 5, 6, 7, 8, 10, 12, 13, Diamond Bar Golf Course, Sphere of Influence



HUMAN-ALTERED HABITATS

Developed areas, such as turf/landscaped parks and the Diamond Bar Golf Course, generally do not support Natural Communities, but these areas may nevertheless play important ecological roles. For example, the golf course includes large number of ornamental trees that comprise a non-native woodland that supports a wide variety of resident and migratory native birds, presumably including nesting raptors, and the man-made lake provides habitat for migratory and resident waterfowl.

Details of these natural communities are stated page 9-12 in the Biological Resources report.

From: [George Hague](#)
To: [2020 PEIR](#)
Subject: Comments on the 2020 Draft Connect SoCal Plan and Draft Connect SoCal PEIR
Date: Friday, January 24, 2020 4:28:00 PM
Attachments: [Copenhagenize.jpeg](#)
[State Attny general- Moreno Valley ignored environmental law when it OK.docx](#)
[Brief Amici Curiae_Final \(1\).pdf](#)
[Proposed Amicus Brief of Climate Policy Experts \(1\).pdf](#)

Dear 2020 Connect SoCal Team,
2020

Friday January 24,

Re: Comments on the 2020 Draft Connect SoCal Plan and Draft Connect SoCal PEIR

While I appreciate that conservation is one of the top ten goals, I am concerned that I do not see what will happen to make it so that we do not end up with a bunch of urban islands of habitat which will eventually lead to the weakening and death of most wildlife within. There needs to be connectivity over and under all your roads, Expressways Freeways and Boulevards which impede the movement of wildlife. These forms of connectivity must be able to help all forms of wildlife that need to use it to move freely from one area of habitat to another.

Below my name is a Press-Enterprise article concerning a two month old court ruling about a housing tract blocking Mountain Lions important movements— please read to the very bottom of it. I found it sad that the Western Riverside County Multi-Species Conservation Plan did not provide the leadership needed to protect this important Mountain Lion crossing and therefore the environmental community did. **"No funding for any 15 Freeway crossings has been raised so far."** (Press-Enterprise article found below) The words "Connect SoCal" must not only apply to people but to the wildlife which cannot speak for themselves. It therefore must be part of this plan to not only set aside sufficient funds for connectivity over and under new and improved projects, but must also have the all the necessary funds to go back and retroactively build new freeway/rail crossings to provide important linkages for the many different impacted species. City and County jurisdictions cannot be allowed to impede this much needed connectivity. I look forward to the final plan showing how "Connect SoCal" applies to the free movement of all forms of wildlife throughout southern California.

In the Moreno Valley area it is important to have connectivity—especially for the Fish and Wildlife 20,000 acres San Jacinto Wildlife Area (SJWA). This very special area are in two 10,000 acre units separated by a couple of miles as well as SR-79 and Gilman Springs Road. There are many sensitive, threatened and endangered species using these two SJWA units and they need to travel between them. There are no crossings over or under Gilman Springs Road and SR-79 doesn't have what is necessary for safe crossing of all these special species. As

mentioned above the words, Connect SoCal must mean wildlife in addition to people. The plan also needs sufficient money to go back and make right the missing connections/connectivity/linkages for all forms of wildlife from previous already built/approved projects. The Ramona Expressway is on the southern border of the SJWA and will probably use some of these funds and other sales tax money to expand its number of lanes. Again more crossings need to be planned so we do not make the world class SJWA an urban island. The Connect SoCal plans need to provide for the future viability of the SJWA and similar wildlife areas/open space to allow for sufficient linkages. A passenger rail system along the Ramona Expressway could easily happen with Connect SoCal help. SR-60 and the I-215 through Moreno Valley doesn't have any under or over-crossings for wildlife. Will Connect SoCal continue to propose building more and more roadways without fully considering wildlife? The plan needs to build on what other organizations have already produced in showing what linkages must be maintained, but go further for the well being of our planet as well as the enjoyment of future generations.

To meet our greenhouse gas (GHG) and air quality as well as Climate Change goals we must reduce vehicle miles traveled. We cannot just rely on electric vehicles, but they are important. Where in this plan is it providing charging stations for both cars and semi-trucks in enough sufficiency to help meet these goals? Where in the plan does it acknowledge induced traffic? Please include the cartoon below this paragraph which depicts what happens in most cases when more asphalt and cement are added to existing lanes = you build it they will come. It is accepted by most state leaders that you cannot build yourself out of congestion with more car/truck lanes.



The first consideration for additional lanes needs to be for public transportation. At least three times as much money needs to be put into this area as in adding vehicle lanes. If you ever go down the road of providing separate lanes for semi-trucks, then the only trucks that may be allowed to use them must be electric or zero emission.

In the area I live, the I-215 and SR-60 interchange or merging of the two freeways is at ultimate design buildout. Even though this is the case we continue to read that there will be efforts to raise the sales tax to widen SR-60 leading to this pinch point and the same is true of the I-215. This area is a beyond challenging most mornings heading west and woe be to all when there is even a minor accident.

If and when the 40 million sq foot World Logistic Center (WLC) is built, then its more than 14,000 daily diesel truck trips and its other 50,000 vehicle trips will make

Moreno Valley area a nightmare. They/you cannot build enough of anything to make it work and reduce its impacts on GHG and our non-attainment air quality as well as reducing impacts to Climate Change or as some say Climate Disruption.

Attached is a newspaper article and two amicus briefs filed January 10, 2020. The first is from the California Attorney General's office and California Air Resources Board expressing concerns over the WLC's impacts. The second is from CEQA and climate experts - Ken Alex, Dallas Burtraw, Ann E. Carlson, Fran Pavley, and Michael Wara. These two "friend of the court" briefs come from those who must implement AB 32 and one of its principal authors as well as the head of Office of Planning and Research (OPR) for many years. All three attachments are to be incorporated into my comments.

Projects like the WLC show the importance of rail for both people and goods.

SCAG knows the infrastructure is not there for the WLC and will never be available to accommodate its impact. As mentioned above the SR-60 and I-215 point of merging is already built to its ultimate design — what will happen if and when the WLC is built a few miles east of there?

I appreciate this opportunity to make some comments on this plan. As mentioned above please print out the three attachments as part of my comments for future documents as well as the article on Mountain Lions. Please continue to inform me of all future documents and meetings by using this email address and the P.O. Box found below.

Sincerely,

George Hague
Sierra Club
Moreno Valley Group
Conservation Chair

P.O. Box 1325
Moreno Valley, CA 92556-1325

Saturday, November 23, 2019

WILDLIFE LAWSUIT

LEGAL WIN FOR MOUNTAIN LIONS

Judge tentatively rules that environmental report on Temecula housing development doesn't answer questions about the big cats

By Martin Wisckol

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Mountain lion attacks, like the 2004 Orange County mauling that marked California's most recent cougar-on-human fatality, underscore the ferocity the big cats can unleash on people.

But the danger humans pose to the lions of the Santa Ana Mountains is much broader — extinction.

That possibility unfolded in a man-versus-animal courtroom skirmish Friday, the result of a lawsuit brought by environmental groups hoping to block — or at least condense — the planned 1,750-home Altair development west of the 15 Freeway in Temecula.

Just before the hearing, Riverside Superior Court Judge Daniel A. Ottolia made his leanings clear when he issued a written tentative ruling. In it, he agreed with mountain lion advocates' claim that the environmental impact report filed by the developer failed to adequately address impacts on the area's lions

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Lions

FROM PAGE 1

as well as on the rare western pond turtle and endangered San Diego ambrosia.

Lawyers for the city and the developer, Ambient Communities, spent much of the next hour defending the report. They have until Dec. 31 to present written arguments in hope that Ottolia will reverse course.

The stakes could be high. Although the 270-acre project would not be the sole cause of extinction for the Santa Ana Mountain cats, it could contribute to it, according to suit.

"This project could be the final nail in the coffin for the Santa Ana Mountains lions," said Center for Biological Diversity attorney J.P. Rose afterward, adding that he was "encouraged" by the tentative ruling. Rose's group is joined in the suit by the Sierra Club, the Mountain Lion Foundation and the Cougar Connection.

Mountain lions are regularly photographed by trail cameras in the area of the proposed development and the project is adjacent to an existing underpass that could allow the animals to travel to and from the much larger Eastern Peninsular ranges east of the freeway.

Largely hemmed in by development and freeways, Santa Ana Mountains cats face the threat of being unable to reproduce because of inbreeding and a lack of genetic diversity. A study earlier this year determined that they could become extinct in the area in the next few decades and that better access to the Eastern Peninsular ranges would greatly improve their odds.

City downplays impacts

While a handful of lions have been documented making it over or under the freeway in the area, the subdivision would make such trips less likely, according to environmentalists and mountain lion experts.

"The Santa Ana Mountain lions are the most at risk of local extinction of any lion population in California, and possibly the United States," the environmental groups said in a court brief. The brief added that the project's environmental report "fails to inform the public and decision-makers of the Project's severe and permanent impact on the Santa Ana mountain lion population."

The brief also notes criticisms that the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Services filed over the environmental report.

The city of Temecula, which approved the project and the environmental report in December 2017, is the principal defendant in the case. It was joined by the developer in a response brief saying the environmental report met regulatory requirements and "the Project's impacts on mountain lions could be reduced to less than significant" provided the proposed 450,000-square-foot "civic" building at the southern end was reduced to the 20,000-square-foot nature center.

Concerns about the western pond turtle and San Diego ambrosia also were dismissed by the defendants, with the city's brief saying the impact on them would also be "less than significant."

The city brief noted that mitigation for environmental damage includes an estimated \$23 million for conservation efforts over the next hundred years. It also says that the project's footprint has been significantly reduced by rerouting a planned four-lane road known as the Western Bypass.

"From the very outset, Ambient sought to realign the Western Bypass to lessen impacts on the hillside escarpment, wildlife movement and conservation areas," the city's brief says.

Attorney Ginetta Giovinco, representing the city, held out hope for the project's current configuration despite the judge's tentative ruling.

"We certainly don't consider the case over," she said after Friday's hearing. "(Ottolia) will take another look at our position in light of our objections."

Wildlife underpass 'critical'

While the lawsuit calls for city approval of the project to be invalidated, it notes that environmentalists have said they would be satisfied if the project were further

condensed and any building slated for the southern end is moved out of that area. On the 270-acre project site, 186 acres would actually be developed with buildings and roads. Environmentalists propose

reducing the developed area by 22%, to 145 acres.

"If the tentative ruling becomes final, it will require the city and developer to go back to the drawing board and revise the footprint," Rose said.

The smaller configuration would allow the lions more space to migrate along the hillside overlooking proposed development and, perhaps more importantly, it would create a larger buffer for the freeway underpass where Temecula Creek trickles into the Santa Margarita River.

The underpass is potentially a prime crossing area for mountain lions, although it is unknown if they have ever used it. Winston Vickers, a UC Davis veterinarian who researches mountain lions in the area, documented seven male lions crossing the freeway from 2001 to 2016, but six of those trips were verified by genetic analysis and it's not known exactly where they crossed. The sole lion tracked crossing the freeway while wearing a GPS collar made the trip at the Gopher Canyon Road underpass nearly 20 miles to the south.

At least four more lions were killed from 2013 to 2018 trying to cross on the freeway itself.

But Vickers' cameras have caught lions approaching the Santa Margarita River underpass. He said a variety of factors currently deter the animals from continuing through to the other side, including homeless people living in the tunnel, other foot traffic, dense brush, and noise and light from the freeway.

The underpass "is critical to mountain lion movement between the Santa Ana Mountains and the Palomar Mountains east of Interstate 15," according to Vickers and fellow mountain lion expert Kathy Zeller in a letter critical of the environmental report.

A Cal Poly Pomona report detailed possible wildlife crossings — a project initiated by Vickers — and produced a \$570,000 plan for improving the river underpass to make it more attractive to mountain lions.

The environmentalists' lawsuit says human activity around the underpass is likely to increase with a nearby subdivision and new trails, further deterring lions. The city counters that the project developer would make its own improvements so the tunnel is more inviting to lions, including the erection of barriers to discourage foot traffic.

Other possible crossings

The Cal Poly study also produced a pair of potential crossings 2 miles to the south of the Santa Margarita River underpass that could connect the lions' 600-square-mile habitat in the Santa Ana Mountains with the vaster Eastern Peninsular ranges, which extend into Mexico. A single adult male needs about 150 square miles of habitat, with females needing far less, according to the National Park Service. This year's extinction

study estimated there were five adult males and 11 adult females in the Santa Ana Mountains.

An overpass in the southern area 2 miles south of the river was tagged at \$17.6 million while a lionfriendly culvert upgrade in that same area was priced at \$9 million to \$10 million. **No funding for any 15 Freeway crossings has been raised so far.**

A wildlife bridge in the general area proposed by the study has been endorsed by the city.

"A wildlife overpass for the I-15 ... is the most logical and effective means to restore mountain lion movement," according to a city court brief.

Vickers said a crossing in that southern area would not be affected by the Altair development but didn't want to give up on the Santa Margarita River underpass.

"You want to keep an existing crossing, especially when you don't know if or when the crossing to south will be built," Vickers told the Southern California News Group before the hearing. "I'm confident we can get the lions to cross at the existing underpass if we diminish human presence there."

That's consistent with what Vickers told the Southern California News Group in a 2018 report.

"We know they want to cross," he said. "Sometimes they'll come and sit near the freeway and watch it all day."

"This project could be the final nail in the coffin for the Santa Ana Mountains lions."

— *J.P. Rose, Center for Biological Diversity attorney*



Attn: Connect SoCal Team
 Southern California Association of Governments
 900 Wilshire Blvd., Ste. 1700
 Los Angeles, CA 90017

RE: Draft Connect SoCal RTP/SCS Plan and Program EIR

Dear Team Members:

We write to followup on the comments we made during the Scoping Plan, as a civil rights organization focused on promoting minority home ownership and opposing government “redlining” actions that result in residential segregation and disparate harms to California’s minority communities.

We are deeply distressed that the draft Connect SoCal RTP/SCS Plan is even more forcefully aimed at ending minority home ownership opportunities in California’s most populous region, especially since the majority of the region’s residents are minorities – and especially since homeownership has long been recognized as the most successful pathway to the middle class and the intergenerational wealth accumulation that helps fund income interruptions from injuries or job losses, college expenses for kids, and other unplanned expenses for all family members. Senate Bill 375 expressly requires SCAG to develop and periodically update these regional plans to meet the region’s actual (not aspirational based on some “end capitalism” or “massively redistribute wealth” advocacy vision) housing and transportation needs. SB 375 also requires that these regional plans accommodate for continued economic growth (which we believe requires preserving upward mobility for California’s hard working minorities, as well as young people), and actually advance California’s climate leadership – not simply induce Californians to leave to other states to find housing they can afford to buy, allowing California to falsely claim a GHG reduction credit for reducing its population and in-state economic activities.

We are fully supportive of the SB 375 goals – but we oppose making minorities the collateral damage in California’s war on climate change. We oppose the RTP/SCS as an unlawful agency action to promote *de jure* residential racial segregation while exacerbating the adverse environmental, commuter health, and family welfare harms caused by intentionally increasing roadway gridlock. We further conclude that the Program EIR for the RTP/SCS is false, as well as wholly unlawful, for failing to acknowledge that the catastrophic physical, social, and civil rights consequences of the SoCal Connect plan’s high density infill rental housing, someone-else-should-ride-the-bus agenda, including further increases in homeless and poverty with attendant significant adverse health, safety, and environmental impacts. We support an “all of the above” strategy for solving the housing crisis, which brings a clear-eyed

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recognition of what the region's families can actually afford to buy (and rent), and which matches the region's overwhelming transportation mode automobile choice with transportation plan solutions that actually work for people – not agencies, not staff, and not the legion of consultants who profit from taxpayer-funded planning that has not, and does not, work in the real world. SCAG's prior SB 375 plans did not reduce VMT: VMT increases with population and employment. SCAG's prior SB 375 plans were implemented when both the homelessness and housing crisis got much worse, not better. Professor Einstein said the definition of "insanity" is doing the same thing over and over again while expecting a different outcome. The SoCal Connect Plan is indeed insane: it provides neither housing nor transportation solutions that match the needs of the region, especially the needs of the region's minorities and young people.

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We further support a rationale and transparent consideration of all regional greenhouse gas reduction strategies, not simply the fiction that Vehicle Mile Travelled (VMT) reductions for California families will actually meaningfully reduce global GHG. The fact is that SB 375's GHG reduction mandate was unlawfully converted into an unlawful VMT reduction mandate by the California Air Resources Board in an unlawful underground regulation "guidance" document that is no less than a bureaucratic putsch to end-run the Legislature's repeated refusal to mandate regressive (and ultimately racist) VMT reductions. By aiding and abetting CARB in this unlawful and racially discriminatory anti-housing and anti-transportation plan, SCAG joins CARB in violating the civil rights of the region's minority population while making zero – or negative – progress in reducing global GHG.

In fact, SB 375 did not authorize any agency, including SCAG, to make homeownership unattainable, worsen the homelessness crisis, and increase housing costs and make transportation more costly and less efficient for hard working minorities and young people. In adopting SB 375 the Legislature considered, and expressly rejected, requiring the reduction in Vehicle Miles Travelled (VMT) as a climate legal imperative in California. Later legislation to require VMT reductions have likewise failed, which is not surprising given the inherently regressive consequences of increasing commute durations and costs for the very people priced out of more proximate housing, the overwhelming ongoing dependence of Californians on cars and falling transit utilization, and the far more equitable and effective climate change strategies and mandates that have been adopted by the Legislature.

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While CARB and its allies routinely assert that transportation is the largest GHG emission sector left in California, they omit the fact that the cars needed by people to get to and from work and attend to medical appointments, family care, and other routine family needs, are both increasingly cleaner – with more electric car mandates underway – and account for only a fraction of the plane, train, shipping, and heavy duty truck transportation sector GHG. They also routinely omit the fact that California already has a very low per capita VMT relative to other states outside the historic East Coast, that passenger car smog emissions have dropped by more than 99% through the methodical and transparent regulatory implementation of the Clean Air Act, that VMT has of course actually substantially increased – with the highest increase by far coming from Latino workers and families. They also ignore the fact that coastal Southern California already has the highest population densities in the United States.

We implore SCAG to resist the lure of redlining by elitist anti-car and anti-homeownership planners, and avoid violating civil rights, air quality, transportation, and housing laws to appease the takeover of land use decisionmaking by CARB to worsen California's homelessness, housing and poverty crises.

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Residential re-segregation in Southern California is already well underway based on the housing crisis, which has caused a shortage of housing supply and skyrocketing housing costs in the region, and which has in turn resulted in relentless increase in the homeless population, and caused California to have the nation's highest poverty rate – and by far the highest poor population count based on US Census Bureau data. In even more accurate poverty data compiled by United Way of California, even when state public assistance is taken into account (e.g., assistance with rent, childcare, food and medical care), nearly 40% of Californians – disproportionately minorities, children, and seniors – cannot meet routine monthly living expenses. Struggling to Stay Afloat: The Real Cost Measure in California 2019, <https://www.unitedwaysca.org/realcost>. “Redlining” to exacerbate redlining remains endemic in California's government agencies through tools like the California Environmental Quality Act (CEQA): the most common target of CEQA lawsuits are housing, and within the SCAG region 14,000 housing units were challenged in just a three year study period. Virtually all (99%) of the challenged housing was in urbanized areas not greenfields, most (70%) was within one-half mile of the 2016 SB 375's priority transit areas, and most (78%) were in the region's whiter, wealthier and healthier communities rather than in the designated minority “environmental justice” neighborhoods suffering from higher poverty and unemployment rates, and lower educational and health outcomes, for residents. California Environmental Quality Act Lawsuits and California's Housing Crisis, Hastings Law School Environmental Law Journal, Fall 2018 https://repository.uchastings.edu/hastings_environmental_law_journal/vol24/iss1/3/

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The 200 has filed three civil rights lawsuits against state agencies that have weaponized CEQA as an anti-housing, anti-transportation redlining litigation cudgel to be deployed against housing that hard working minority families can afford to buy. The first lawsuit targeted CARB's four measures in the CARB scoping plan, including the unlawful VMT reduction mandate rejected by the Legislature; in unsuccessfully attempting to dismiss that lawsuit, CARB's attorneys argued that it was lawful for CARB to engage in racially discriminatory housing practices because housing was not a protected class. The second lawsuit sought disclosure under the Public Records Act of documents deemed by CARB and its allied agencies such as the Office of Planning and Research (OPR) to be “too controversial” for public release; attorneys for the state have employed a variety of litigation tactics to delay that lawsuit by nearly two years. The most recent lawsuit challenged the anti-housing 2018 expansions of CEQA regulations, and is attached hereto as a separate comment to this letter because SCAG's draft SoCal Connect Plan – like its unlegislated and unlawful CARB and OPR predecessors – is a violation of the state and federal constitutional due process and equal protection provisions, violates state and federal fair housing act laws, and violates air quality and transportation and land use laws, by distorting approved housing and transportation plans that have already been approved by voters, elected officials, and environmental and transportation agencies, to intentionally increase traffic congestion and intentionally curtail or even eliminate market rate housing that is actually affordable for purchase by the majority-minority median income workers in the SCAG region. Each paragraph in the attached Complaint is a separate comment, and

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provides factual and legal evidence demonstrating that the draft SoCal Connect Plan is as unlawful as the discriminatory anti-housing regulatory expansion of CEQA.

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The Program EIR for the plan is likewise unlawful under CEQA. The plan ignores the environmental consequences of its economically infeasible (to the vast majority of the region's residents, including especially minorities) high cost, high density infill-only housing plan, which will cause more homelessness, poverty, out-migration, and supercommutes. The San Francisco Bay Area, which has pursued this failed high density infill-only strategy for a decade, now draws workers from 21 counties – an explosion of “supercommuters” forced to live ever-greater distances away from the woke advocates who decided that global climate change required the wholesale adoption of bikes and scooters instead of cars, and 500 square foot one-bedroom apartments costing \$4000 per month. Even in the Bay Area, which has median incomes well in excess of Los Angeles, this fictional “housing plan” has left thousands of approved high rise apartments unbuilt because they are financially infeasible, and has created gridlock conditions so bad that even commuters in counties adjacent to San Francisco have earned “supercommuter” status by spending more than 90 minutes per day on the road.

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The Program EIR's deficiencies span every single environmental impact section based on the document's willful omission of any analysis of the mismatch of the plan's housing and transportation “solutions” with the urgent housing and transportation needs of the community. If the plan called for a housing solution consisting of \$1 million mansions, it's racist and exclusionary character would be obvious. In fact the plan does something much worse, by calling for \$1 million small condos (or equally costly rental apartments), because high density and even medium density housing costs 3-7 times more to build than two story homes, duplexes and townhomes. If the plan called for a transportation solution that banned driving every Friday, those who must be physically present – on time – at their job to remain employed and be paid would be grossly harmed, while those in the “keyboard economy” of college graduates working on agency plans and studies could happily remain in their pajamas clacking away on their computers at home. In fact the plan does just that, with a VMT reduction mandate from CARB that is the equivalent of eliminating a weekday of driving. (Although called GHG reduction in the plan, but counted as a GHG reduction by CARB only if it derives from VMT reductions per CARB's unlawful underground regulatory “guidance” to SCAG and other MPOs). Construction workers, nurses, teachers, emergency responders, and the hundreds of other job categories that require physical presence on jobsites can't do their work wearing jammies in their kitchen – and these workers, and the region's economy, need a transportation system that actually works.

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Also included in this comment letter, as a separate comment for which responses are required, is the 200's lawsuit against the four anti-housing measures in the CARB scoping plan, which includes in detail the adverse physical consequences to the environment of these measures – inclusive of the VMT reduction mandate, and imposition of higher costs and litigation obstacles to housing. These are the same impacts ignored in the Program EIR for the draft SoCal Connect Plan.

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The Program EIR is also fatally flawed in failing to acknowledge, and assess the impacts of, accommodating the 1.34 million new homes assigned to the region in the latest Regional Housing Needs Assessment (RHNA) cycle, or SCAG's preliminary allocation of new housing

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obligations among the counties and cities of the region which constitutes the best available information about the future location of this planned growth, or the SCAG Board’s endorsement of requiring most of the new housing units – 1 million – to be built in Orange and Los Angeles county. The 200 takes no position on whether this is an accurate housing number, or whether SCAG’s initial distribution of these units is appropriate or final. CEQA, however, requires that this additional housing be assessed as part of the cumulative impact analysis under every CEQA threshold of significance used in the Program EIR, and otherwise required by CEQA.

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The Program EIR also violates CEQA by failing to identify, and implement, all feasible mitigation measures for each of the dozens of significant unavoidable impacts identified as consequences of SoCal Connect Plan implementation. CEQA requires the full and complete assessment even of feasible mitigation measures that are outside the jurisdiction and control of SCAG itself to implement or enforce, and includes the lead agency’s (SCAG’s) obligation to identify such measures as being within the jurisdiction and control of specified other agencies which SCAG believes can and should implement such measures. SCAG cannot escape CEQA compliance because it is politically difficult, technically complex, or requires an assessment of the reasonably foreseeable consequences of failing to provide housing solutions that the region’s people can afford or transportation solutions that the region’s people actually need.

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The 200 implores SCAG, which has done tremendous analysis and work for decades, to apply its own knowledge to develop an alternative regional land use and transportation plan that actually does provide housing that is affordable for purchase by median income families, and transportation solutions that do ease congestion and reduce gridlock. Part of this solution is undoubtedly some high density housing in the wealthiest neighborhoods where \$1m condos and \$4000 rents are in fact affordable. Virtually none of the solution for median and above-median income families can be paid for by taxpayers, given the overwhelming needs and extraordinarily high cost of providing housing for the homeless, special needs populations, and the lowest income families. Practical solutions for solving the housing and transportation crisis will reduce GHG by preventing the need for people to move to high GHG states to find housing they can afford, and clean car and other transportation sector legal mandates will reduce GHG just as smog was reduced from a combination of emerging technologies and actual rulemaking rather than underground regulations.

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The preparation and analysis of an alternate housing and transportation plan that actually complies with SB 375’s mandate to accommodate the housing, transportation, and economic expansion of the region will require recirculation of the Program EIR. An honest and legally adequate assessment of the draft SoCal Connect plan’s adverse environmental, health and safety consequences – and the legally adequate identification and assessment of feasible mitigation measures in and outside SCAG’s jurisdictional reach – will also require recirculation of the Program EIR. Finally, the legally required cumulative impact assessment of accommodating the RHNA housing allocation for the region – all of which is to occur within the earlier years of the planning horizon used in the SoCal Connect plan, will likewise require revision and recirculation of the Program EIR.

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It is immoral, and unlawful, for any public agency in California to worsen the homelessness and housing crisis. It is immoral, and unlawful, for any public agency in

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California to discriminate against minority families, or worsen poverty for the 40% of Californians who cannot meet their monthly expenses. SCAG has no history of such immoral and unlawful conduct, and – when handed a racially discriminatory and unlegislated mandate by a state agency like CARB – should resist the lure of joining in the long line of California agencies that engaged in intentionally discriminatory redlining practices. The 200 has two videos – the history of redlining, and CEQA as redlining – on its website at <https://www.thetwohundred.org/>. The 200 urges SCAG staff and leaders to reconsider the plan, and substantially revise the Program EIR.

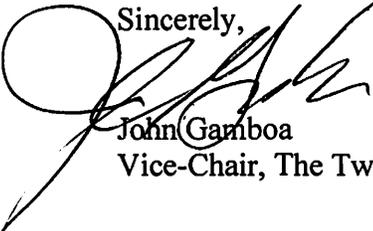
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Finally, we understand that SCAG staff is concerned that delaying approval of the unlawful SoCal Connect Plan and Program EIR pending completion of a lawful and effective housing and transportation plan for the region could cause the United States Environmental Protection Agency (EPA) to determine that the region is in nonconformance with Clean Air Act mandates. Members of The 200 have a long history, and very high success rate, in persuading both federal and state agencies – with and without lawsuits – to stop engaging in racially discriminatory practices. Given California’s willingness to sue the current federal administration on environmental matters, and the emergency nature of the California homelessness and housing crisis, we would be pleased to assist SCAG in advocating for the necessity of a one year extension for the conformity determination. There is also precedent for this one year extension in San Diego. Unsubstantiated hypothetical fears of a delayed conformity determination to force approval of an infeasible and discriminatory housing and transportation plan is, bluntly, elevating bureaucratic bean counting over the actual needs of actual people.

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Please do not hesitate to contact us if you have any questions, would like any further information, or would like to discuss a consensual path forward. Some of our members have been civil rights leaders for more than 50 years, and had hoped that civil rights laws had finally addressed the decades of de jure racial discrimination by public agencies. We commend to your collective attention The Color of Law, by Richard Rothstein, which describes in detail the scores of residential housing discrimination practices inflicted on minorities by state and local agencies in California. Mr. Rothstein calls this the “forgotten” history of redlining in America. We have not forgotten, and stand ready to litigate – as a last resort – to prevent the recurrence of redlining under the bureaucracy’s new favorite label of climate change. We can reduce GHG emissions; we cannot deprive minorities of attainable homeownership and effective transportation solutions.

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Sincerely,

 John Gamboa
 Vice-Chair, The Two Hundred

Attachments: The Two Hundred v. Office of Planning and Research
 The Two Hundred v. California Air Resources Board

Westwood South of Santa Monica Blvd
Homeowner's Association
Incorporated November 8, 1971
P. O. Box 64213
Los Angeles, CA 90064-0213

January 24, 2020

Draft Connect SoCal PEIR Comments
Attn: Roland Ok
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Submitted via email: 2020PEIR@scag.ca.gov

Thank you for the opportunity to comment on the draft regional transportation plan whose many goals will guide transportation and land use policy and program for the coming years in the SCAG region through 2045. As stated in the opening chapter of the draft, the regional plan seeks to chart “a path toward a more mobile, sustainable and prosperous region by making key connections: between transportation networks, between planning strategies and between the people whose collaboration can make plans a reality.” While fulfilling this vision, it is important to note that the plan must do much more than merely coordinate transportation projects, reduce greenhouse gas emissions, meet federal Clean Air Act requirements, promote the preservation of natural and agricultural lands, promote measures that improve the public’s health, ensure the maintenance of roadways and transit infrastructure, provide needed support for good’s movement, promote the more effective use of our limited resource, usher in new technologies related to transport and transportation – all while supporting healthy and equitable communities and restoring endangered and fouled habitats (for all species as well as our human brothers and sisters). In short, this plan and future regional planning must usher in a form of policy evolution – a culture shift that must be sensitively and carefully advanced understanding the many factors involved.

Although laws can be passed and policies can be adopted, none will fully succeed without careful attention played to the human factors involved and to the careful design of transitions. As it pertains to the shift away from the Southern California car culture, SCAG and all its member governments are likely painfully aware of the need to build bridges between “what is” and “what must be.” What concerns me as I review proposed policies and laws, is the failure to acknowledge that the realities of the impacts of the transition cannot be ignored or be “sold” to the public by platitudes.

The public's exposure to the Connect SoCal plan through recent webinars and telephone town hall did not and could not "get into the weeds" of the plan. These overviews would not have led to an understanding of what will come to pass over time. They did not lead people to ask questions that get to the root of some of the challenges that we face in the implementation of a plan like Connected SoCal. The ability to make meaningful comment from the public's point of view, experience and background is quite limited – especially understanding that SCAG has worked with representatives of the region's member cities to seek input and incorporate those thoughts into the plan. How can we as laypersons make a contribution to this process?

We have observed and been recipients of the implementation of LA City policies that seek to support some of the same goals being sought in the Connect SoCal plan. Some of our thoughts in response to what we have seen in the rollout of those policies and the Connect SoCal plan follow:

- RE: Complete Streets
 - The emphasis on providing significant density bonuses to developments on what have traditionally been our communities' commercial corridors has resulted in the significant loss of local community serving merchants – the very backbone of retail and service providers needed in a community. Small retailers and service providers are often the first displaced tenants in the reorientation of commercial corridors into so-called mixed use development sites. However, it must be noted that the "mixed-use" developments are often nothing more than residential developments. In fact, Los Angeles' RAS mixed use development zone does not require a project to have a mixed use component. Further, many residential projects that claim to incorporate ground floor "live-work" units which are purported to be active pedestrian oriented uses are most often purely residential uses with no street orientation.
 - Creating purely residential communities with proximity to transit without providing for the community services and retail support for the growing dense population will require residents to travel distance to support their daily living needs.
 - Allowing residential development to occupy both commercial and light industrial/manufacturing zoned land (much the result of the very generous entitlement bonuses given to residential development) in the push to provide new housing will result in the need for those residents to have to travel far distances to reach their work locations. There is a clear need to identify and reserve land for job opportunity also near transit. Housing and jobs may not be coming closer together without more attention to the current realities.
 - Further: Re: Jobs and Housing balance: While we understand that the RHNA process has resulted in the placement of the bulk of new housing to be in the coastal zones of SCAG's region, we do not believe that it is a sound policy to rely on the coastal zone to absorb all new population – both because of the inherent higher cost of land in proximity to the coast (something seen worldwide), and the fact that each region as its own ecosystem has what we believe is a carrying capacity. The plan talks about the importance to preserve farmland and open space, but it does not address the need to provide for needed infrastructure such as open space in the urban areas of growing population density. Where is the

recognition of the need to develop urban open space, to develop greenbelts, to regulate the proximity of housing adjacent to transit corridors and noxious uses? Los Angeles City, with which we are most familiar, has land zoned for density to accommodate projected population growth. However, developers do not wish to build in all the areas where land would accommodate new growth. Yet, we are pressed to rezone neighborhoods often creating what many view to be a future unlivable city. With sewer and water mains bursting, with streets crumbling, how much added development can our urban areas absorb? The assumption that the urban areas are able to support large density increases is open to serious questioning. Many would challenge the statement made on page 12 of the project summary: "... by focusing new residential and commercial development in higher density areas already equipped with the requisite urban infrastructure."

What is the strategy to develop population centers with both jobs AND housing where land costs will result in affordable workforce housing and where these newer communities will not endanger agricultural producing land or sensitive habitats? What kinds of incentives can be developed to foster the establishment of job centers in these new population areas? These sub-regional job centers can be built with compact land uses that incorporate open space protections as well as urban open space. These are opportunities to build model communities in a more dense format than former single family home communities.

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- Regarding housing and the high cost of housing:
We all agree that there is an affordable housing crisis and that there are no simple fixes. This "crisis" has been brewing for decades while real estate speculation, the mortgage crisis fiasco, foreign investment in CA property (with many properties left empty and no taxes assessed on them to encourage occupancy) and a growing short-term rental market that removed residential units from the housing market took hold. While Connect SoCal is a transportation program, it is important that these factors be noted and addressed for no current measures have addressed any of these contributors that have helped to bring us to where we are today and have placed added pressures on our housing supply.
- RE: The shift from automobiles to a more transit-oriented transportation realm.
 - This is an evolutionary process best accomplished by halting the demonization of drivers or the creation of an "us vs. them" battle. Innovative programs to incentivize transit use (when possible/realistic) and reduce vehicle use that are not punitive are needed.
 - Road maintenance and improvements must be supported by augmented fees levied on electric vehicles as well as those raised through gas tax funds. Policies that allow for annual fees on electric vehicles are important to reflect the use of the roads by these vehicles which currently may not be paying their fair share. However, we foresee potential backlash in the adoption of both a gas tax for road maintenance and a

use tax based on miles travelled. Should it not be one or the other? Whatever funding mechanism is adopted should build in an established adjustment for inflation without the need for further legislative action. Is it fair to seek both a mileage-based user fee AND a local road charge program?

- The possible investment of private equity firms in the construction and/or operation of transit will come at a future cost. We are concerned that decisions made are done with clear understanding of the cost to future users and how that compares with public financing options. Those discussions should be held in the open in a transparent manner.
- The placement of bike and bus only lanes that results in the intentional “traffic calming” on streets often comes with unintended consequences for nearby streets. Our streets have traditionally been characterized by their ability to carry different volumes of traffic. Our community supports streets designated to provide safe passage for bicyclists. However, we also believe that certain streets should be designated to move vehicles and not bicycle traffic. We are extremely concerned that the intentional slowing of traffic on arterials will result in the transfer of vehicles from the arterials to our local community streets – streets where we believe it is safest for pedestrians and bicycle riding. The adoption of “bus only” lanes will present some of the same challenges.
- Transit use: There are those who can easily access transit and there are those that cannot do so. Each of those groups has an additional subset—those who use transit and those who do not. It is likely unrealistic to expect that all can and will use transit. In some families, some family members will use transit and others will not/cannot do so. We must recognize that Los Angeles is a city that is separated by a mountain range – a mountain range separating valley and city areas. While METRO has current plans to connect the two areas by fixed public transit, we are not there yet. And yet, there are plans to levy user fees to riders who enter the Westside via “GO ZONES” – also known as tolling areas. So long as there are significant gaps in our transportation network, GO ZONES or local toll areas will be viewed as schemes devised to raise funds to help support transit development/maintenance. The proposed Westside GO ZONE now being discussed does not address the impacts on those who cannot adjust work shifts, of those who must access needed medical care within a GO ZONE area. This will strike those affected as yet another tax that is being levied to make up for otherwise unsound funding mechanisms for our transit/transportation infrastructure.
- The Westside has long waited to receive fixed public transit. The EXPO line exceeded ridership estimates from the minute it opened and yet frequency of trains has been reduced. The “Subway to the Sea” will not reach the sea and will end at the VA removing a major transit connection along a major travel corridor. The lower population levels in hillsides and substandard streets there will likely make it unlikely that transit can be justified to serve hillside residents (although microtransit may be helpful there). Why is the Westside being identified as the target of a tolling program? Why isn’t the downtown area, where major investments in transit, including the Downtown Connector) have been made and where

the Gold Line, Subway, Union Station, Metrolink all meet? Promises that low income drivers will somehow be subsidized if entering the area does not address the many issues presented by tolling in local communities.

- It is up to the transit providers to present an attractive and efficient option for prospective riders. It is an unfortunate fact that currently some of our transit options are not viewed by riders as realistic options. The reasons for this are many: Poor access to stations, lack of parking where transit options to reach transit are not available, unrealistically long travel times, perceived unsafe conditions (particularly for women traveling along after dark), filthy conditions, unreliable service.
- First mile/ Last mile: Many transit riders and prospective transit riders cannot avail themselves to use scooters or bicycles and may not be able to reach transit on foot. The needs of those individuals need to be recognized and addressed. This is perhaps a growing challenge as the Baby Boomer generation ages. Data has demonstrated that Lyft/Uber-style ride providers are often major contributors to street congestion. Further, the safety of passengers in Uber/Lyft vehicles is becoming a growing issue suggesting that if our transit networks are to rely on these forms of transit then more regulation may be required.
- It is important for planners to recognize that vehicles will not disappear from our environment and that removing parking spaces in residential developments in the thought that this will stop people from driving is wishful and illusory thinking. Providing parking is necessary because not all members of a family will be able to use transit given their work responsibilities and the vast geographic area this region represents. Further, some jobs are shift jobs with irregular hours that do not conform to transit availability. Space provided for parking in buildings should be designed so that it can be repurposed in the future should need for that use be reduced. LA permits developments under the TOC/Transit Oriented Community Guidelines that provide ½ space of parking per unit – regardless of the number of bedrooms in those units. Some projects provide no/zero units assuming that those who live near transit will not own or have a need to park a loaned vehicle. Is this realistic? We think not. At the very least we suggest that data be gathered from all new projects that can help to document how many bicycle and automobile spaces have been provided, how many are in use, whether there are waiting lists seeking access to a parking space. We also suggest (and continue to do so) that projects permitted with bonus densities granted as a result of proximity to transit be required to provide new residents and employees FREE transit passes for an initial period of time, followed by discount pass provision upon proof of regular transit use. Those buildings have benefited from significant “upzoning” and development rights at no cost. They should be part of the process in supporting the use of transit whenever possible. Citizens should not need to have to suggest such a policy. It should be expected, particularly since more and more developments are being built “by right” with little opportunity for community members to participate in making suggestions for improvement.

We are grateful that SCAG has made strong efforts to seek public participation in this effort. It is extremely troubling to us that measures to incentivize housing development have resulted in

the streamlining of the entitlement process that removes our input from the process. Even worse is proposed STATE legislation such as SB 50 that seeks to implement zoning from a statewide perspective – voiding local community plans and local planning efforts. We look to SCAG to be an advocate in challenging the disempowerment and silencing of the voices of local communities in the planning the future of our communities.

1

Thank you for your consideration.

Sincerely,



Barbara Broide
President



ARSAC Alliance for a Regional Solution to Airport Congestion
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January 24, 2020

Mr. Randal Ok
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

Via email: 2020PEIR@scag.ca.gov

Re: Comments to the Draft Program Environmental Impact Report (PEIR) (SCH#2019011061) in accordance with the California Environmental Quality Act (CEQA) for Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy).

Dear Mr. Ok:

Since 1995, ARSAC has advocated for the increased utilization of unconstrained underserved or unserved outlying regional airports such as Ontario and Palmdale to meet Southern California's airport capacity needs instead of expanding LAX.

ARSAC supports a safe, secure, modern and convenient LAX. LAX, the dominant So Cal airport, is limited in operational land and is in a very congested airspace. In 2016, ARSAC negotiated a second legal settlement to extend the 153 gate cap by four additional years through December 31, 2024. The gate cap is based upon Aircraft Design Group III sized aircraft comprised of the narrow body mainline aircraft such as the Airbus A320 and Boeing 737 series commercial airplanes. LAX is currently the largest public works project in Los Angeles County.

1

ARSAC is disappointed with the PEIR:

1. The outreach for public comment appears to very limited.
2. The time for public comment is too short. The PEIR was released in December when most people are paying attention to the holidays and not public policy. SCAG should extend the comment period an additional 45 days and provide lots of publicity to encourage public comment.
3. The content of the PEIR appears to be thinner in scope than in the past, especially the Aviation Element. Instead of doing the RTP right, it appears as "RTP Lite."

2

The draft document repeatedly states its lack of authority to mandate actions. SCAG can be a much stronger contributor to the economic and environmental development of this region by providing increased guidance for transportation priorities. It provides extensive housing priorities and goals and to increase mass transportation to reduce vehicle miles travelled. It appears to favor "active transportation" such as bikes and scooters but fails to project how will be used to generate meaningful data resulting in congestion improvement.

3

ARSAC strongly agrees with the five decade old principle that our airport system must provide a regional accommodation to travelers and cargo. Mass transit train stations and buses must be

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built to support our airport system. Much of the RTP discusses “livable communities” in which single vehicle traffic is discouraged for densified communities. The call for active mobility choices with inadequate parking may serve local communities, but this will not work well for travelers who generally have luggage. Bike centric projects may increase active transportation alternatives but it also reduces vehicle capacity and slows down vehicle traffic resulting in increased GHG.

Traffic around LAX is legendary. Despite all of the major changes proposed we expect that “Every day will be like Thanksgiving gridlock” if the increased projection of 127 Million Annual Passengers (MAP) occurs. No documentation is provided anywhere in the RTP to validate that this 35% increase from current gridlock can be accommodated within or around LAX.

ARSAC strongly encourages data collection and analysis activity to highlight the sources of passengers and to encourage airlines to offer flights at airports most convenient to travelers.

SCAG congestion analyses and “transportation analysis zones” around airports must be detailed enough to identify potential action for improvements not only at end of the planning period of 2045, but also incrementally to match changes within airport areas. When will this data be used? If it is only for 2045, then it will be too late.

In this RTP, SCAG seems to have backed away from 5 decades of advocacy for regional accommodation of commercial aviation needs. The wording, “Regionalization” in reference to Aviation is absent from the draft despite its critical importance to ensuring optimum access and emergency back up for both natural and man-made disasters.

The definition of regionalization has been crafted by ARSAC and the cities of Inglewood and Culver City in 2011 which SCAG should consider adopting:

“Regionalization is the proactive redistribution of a portion of Southern California’s aviation demand to unconstrained airports in the Southern California region other than LAX, in order to achieve a more equitable and proportional allocation of airport growth and aircraft operations among the airports, reduce congestion, increase safety, and minimize vehicle miles traveled, with consequent benefits to both the environment and the economy.”

ARSAC was part of the coalition to “SetONTario Free” whereby Ontario International Airport (ONT) ownership and management returned to local control. ONT has been dramatically increasing domestic service and adding new long-haul international service such as Taipei, Republic of China. ONT is a great example of airport regionalization in Southern California.



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We agree with the RTP statement: “SCAG has and will continue to play a role in terms of aviation systems research, planning, and analysis, as well as encouraging collaboration and communication amongst the region’s aviation stakeholders.”

As the federally recognized Metropolitan Planning Organization (MPO) for Southern California and its ability to prioritize ground transportation dollars, SCAG must do more to help underutilized regional airports become more attractive for airline service by providing easy access by road, rail (Metrorail, Metrolink, Amtrak, High Speed Rail such as Brightline/Virgin Trains) and other mass transit.

Part of Southern California’s freeway congestion problems stems from leakage of passengers from one airport catchment area (natural marketing area) to other airports causing millions of extra vehicle miles traveled. All of Palmdale Regional Airport’s possible passengers are forced to drive to Hollywood-Burbank (BUR), Ontario International (ONT) or Los Angeles International (LAX) to catch a flight. LAX has 70% of the region’s flights including 95% of the international flights. While it is not possible to accommodate all leakage from one catchment area to another, without airline service at places such as PMD freeway congestion will continue to increase. SCAG must work with airports in the region to have ground access projects prioritized. SCAG must re-commit itself to making airport regionalization a reality.

4

In the RTP, some airports having commercial jet service are designated “Reliever Airports”.

Were these “Reliever Airports” included in calculations such as Air Quality, Green House Gas Emissions, Noise, etc.???

Additional information that should be included in the RTP about “reliever airports”:

1. March Inland Port (RIV). As of 2018, Amazon Air has 6 cargo flights per day.

Reference: https://en.wikipedia.org/wiki/March_Air_Reserve_Base

2. Palmdale Regional Airport (PMD). PMD has charter Boeing 737 flights to support US Defense projects such as the B-21 bomber program. The City of Palmdale is in the planning process to build a new passenger terminal on the northwest corner of Air Force Plant 42 (southeast corner of Sierra Highway and Avenue M). This location is adjacent to the Metrolink Antelope Valley Line and would be perfect for a train station stop to make PMD an intermodal and multimodal facility. Virgin Trains USA could also make this a station.

Reference 1: https://en.wikipedia.org/wiki/Palmdale_Regional_Airport

Reference 2: <https://cityofpalmdale.org/DocumentCenter/View/5858/Palmdale-Regional-Airport-Facts-and-Figures-PDF?bidId=>

Reference 3: https://www.avpress.com/news/palmdale-explores-return-of-service-to-airport/article_c0ffc290-bbf9-11e9-8a1a-7fd9889b4667.html



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3. San Bernardino International Airport (SBD). SBD has a new passenger terminal with Federal Inspection Service (FIS) facilities. SBD has commercial aircraft Maintenance, Repair and Overhaul (MRO) facilities. FedEx and UPS have cargo flights from SBD to 9 US cities. Reference: https://en.wikipedia.org/wiki/San_Bernardino_International_Airport

4. Southern California Logistics Airport (VCV). SCLA is a major aircraft storage, maintenance, overhaul and testing facility. Boeing Capital Corporation, a subsidiary of The Boeing Company, stores aircraft here for future leases and sales. GE Aircraft Engines does flight testing of engines here including the new GE9X engine powering the new Boeing 777X. Airtanker 910, which has a McDonnell Douglas DC-10, uses VCV for fighting forest fires in California. Reference: https://en.wikipedia.org/wiki/Southern_California_Logistics_Airport

4

Main document comments and questions.

1. RTP Page 1.03: “The region is home to the two largest container ports in the Western Hemisphere (Los Angeles and Long Beach), and the world’s fifth busiest airport system (Los Angeles World Airports).”

The statement above needs to be updated. According to Airport Council Internationals, Los Angeles International Airport (LAX) is the world’s fourth busiest airport as of 2018. Los Angeles World Airports operates LAX. LAX is on track to becoming the world’s third busiest airport according to first half 2019 figures. Reference: https://en.wikipedia.org/wiki/List_of_busiest_airports_by_passenger_traffic

2. RTP Appendix 3.13. This document leaves out the noise contours for airports classified as “Reliever Airports.”

Palmdale (PMD), March Inland (RIV), San Bernardino International (SBD) and Southern California Logistics Airport (VCV) all have jet air traffic that impacts airport neighbors with noise, pollution and vibration issues. Are these reliever airports included in the air quality, greenhouse gas emission, noise and other analyses? If not, then the RTP could be inadequate in disclosing and analyzing these important issues.

5

Aviation and Airport Ground Access Technical Report comments and questions

1. Overall. SCAG must recommit to an active policy of “regionalization”, a policy that SCAG embraced for the past five decades. Why does SCAG no longer mention regionalization in the RTP? How can we get SCAG to implement regionalization?

6



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2. Executive Summary, page 2. “Only a small percentage of air passengers used transit to travel to and from the region’s airports.”

SCAG must work with airports in the region to identify and prioritize projects that will encourage passengers to use public and mass transit to airports. Hollywood-Burbank Airport (BUR) is a good local model of being an intermodal and multimodal facility. LAX is working on the Landside Access Modernization Program (LAMP) to improve mass transit connectivity. Plans to extend the Metro Gold Line and Metrolink to and from Ontario International (ONT) need to be prioritized.

3. Executive Summary, page 2. “The majority of air passengers in the region are traveling to and from Los Angeles International Airport.” Again, SCAG needs an active regionalization program to help redirect passengers who are leaking from other SCAG airports. This will help to reduce pressure on LAX to expand in the future and to reduce traffic congestion on freeways and local streets around LAX.
4. Executive Summary, page 2. “The growth in air passenger demand globally can be explained in part due to the health of the economy and an ongoing trend of decreasing airfare.”

The statement is correct, but leaves out important components of growing international air service: Open Skies Agreements between the United States and other countries which removed restrictions on city pairs and aircraft types and the use of new fuel efficient long range aircraft such as the Airbus A350XWB and the Boeing 787 Dreamliner that have made flying between smaller size markets profitable.

5. Exhibit 1, SCAG Region Airports, Page 4.

Why is Palmdale Regional Airport listed as “Palmdale Air Terminal” on the map?

6. Table 1, Commercial Air Carriers (and Destinations) Operating in the SCAG Region Airports, Pages 10 and 13
 - a. The list appears to be LAX-centric. Why was the list not broken out by individual SCAG airports with airlines and destinations?
 - b. The destinations are missing for Aer Lingus (Dublin), Aeroflot (Moscow), Aeromexico (Mexico City, etc.), Aeromexico Connect, Air Canada (Vancouver, Calgary, Edmonton, Toronto, Montreal), Air Canada Rouge and Air China (Beijing). Where did the information about “O&M Existing Service” and “Bridges, pavement” come from?
 - c. Why were these airlines not listed? Air Italy (Milan)? Boutique Air (Merced)? Finnair (Helsinki)?
 - d. Why are Air Canada and Volaris listed twice?



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- e. Norwegian Air Shuttle has reduced its destinations from LAX
 - f. Scandinavian Airlines just switched its destination from Stockholm to Copenhagen
 - g. Thomas Cook Airlines, WOW Air and XL Airways France have ceased operations.
7. Table 2, SCAG Region Cargo Airlines and Destinations, Pages 14 and 15
 - a. The list appears to be LAX-centric. Why was the list not broken out by individual SCAG airports with airlines and destinations?
 - b. Does this list account for Amazon's Prime Air operation at March Inland Port (RIV)?
 8. MPO's have no authority over Airport Development, Pages 18 and 19. Please refer to our comments above concerning active regionalization.
 9. Where are air passengers coming from and how are they getting to the airport?, Pages 24 to 26. Again, SCAG has an opportunity and a responsibility to work with airports in facilitating projects to create and enhance mass transit projects to airports to encourage more air passengers to use transit options other than single occupancy vehicles or Transportation Networking providers.
 10. Air Cargo traffic to the SCAG region airports, Page 26. Why did SCAG only include the top 5 cargo airports in the SCAG modeling program for truck trips? Other airports such as San Bernardino (FedEx and UPS) and March Inland Port (Amazon Prime Air) produce truck trips. It is anticipated that these 2 airports will likely see increases in cargo service from these cargo carriers and this will impact roadways with more truck traffic.
 11. Strategies, Page 31. Again, SCAG must be more pro-active in working with SCAG region airports on ground access to make these airports more intermodal and multimodal.
 12. Table 12, SCAG Region Airport Forecast for 2020-2045 RTP/SCS, Page 33. What documentation and justification has LAWA provided for the projected 127 Million Annual Passengers in the 2045 horizon year?
 13. General Aviation Forecast, Page 34. Does the forecast include the possible closure of Santa Monica Airport (SMO)? Does the forecast include membership flying services such as SurfAir and FLOAT?
 14. New Airport Ground Access and Modernization Projects, Pages 34 to 36. ARSAC appreciates that the 2028 Olympic Games are mentioned, but again, it appears that there is lack of urgency in this RTP to have airport access projects completed before the Olympic games making the airports in the SCAG region, "Olympics ready." ARSAC supports efforts to bring Metrolink and Metrorail to Ontario International Airport (ONT).
 15. Supersonic aircraft missing from RTP. Supersonic passenger aircraft are expected to debut during the 2020-2045 timeframe of the RTP. These include the Boom Technology Overture and Aerion AS2 supersonic business jet. Boom has 10 options each from Japan Airlines and Virgin Atlantic, both of whom serve LAX.
Reference 1: https://en.wikipedia.org/wiki/Boom_Technology



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Reference 2: <https://en.wikipedia.org/wiki/Aerion>

16. Drones also missing from RTP. Drones are being deployed for law enforcement and commercial purposes such as filming and package delivery.
17. Helicopters also missing from RTP. Helicopters are used law enforcement, fire fighting, medical, news coverage and private transportation. Helicopters negatively affect residents when they fly low.
18. VTOL. New services such as Uber Elevate are on the horizon. This service will require new landing pads to enable its usage. The safety of manned and unnamed VTOL needs to be examined. From Wikipedia: "UberAIR / UberElevate will provide short flights using VTOL aircraft. Demonstration flights are projected to start in 2020 in Dallas and Los Angeles. Commercial operations are projected to begin in 2023.[48] Although technically feasible, the program is expected to encounter safety and regulatory obstacles.[49]"

Reference: https://en.wikipedia.org/wiki/Uber#Riding_with_Uber

Passenger Rail Technical Report comments and questions

1. Table 1, Private Transportation Providers, Page 18. Destinations are missing for Tres Estrellas de Oro and TUFESA.
2. Los Angeles to Las Vegas, Page 27. Was XpressWest and its successor Virgin Trains USA approved for a Palmdale to Victorville segment? Why is this not mentioned about a Virgin Trains station in Palmdale?
3. Airport Ground Access, Page 33. Were the City of Palmdale's plans for a new airport terminal on the northwest corner of Air Force Plant 42 (southeast corner of Sierra Highway and Avenue M) considered in this RTP?

ARSAC will continue to work with SCAG to improve our regional economic and environmental conditions. We encourage SCAG to increase its outreach and to foster discussion and action within each of the Counties and Cities of our region.

Sincerely,

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6

7

January 24, 2020

Roland Ok
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: "Connect SoCal" DEIR Comments

On behalf of BizFed, a grassroots alliance of more than 190 business organizations representing 400,000 employers with over 3.5 million employees in Los Angeles County, we want to thank SCAG for the great work in presenting this plan to many diverse stakeholders in Southern California.

We see great things in the plan that we strongly support, such as increasing housing production, leveraging investments from enhanced infrastructure financing districts (EIFD), supporting 5G Smart Cities, and supporting increased public transit and Metrolink service. However, we heed caution to the calls for imposing vehicle miles travelled (VMT) reduction targets and the fees attached to them as a strategy for greenhouse gas (GHG) reduction. This strategy and its fees have negative impacts on disadvantaged communities. We view this as counterproductive to BizFed's anti-poverty goal of lifting one million persons in Los Angeles County out of poverty over this decade.

California ranks at the top in the United States for poverty and homelessness – both of which are attributable directly to the housing supply shortage, high housing prices that are nearly three times above the national average, and longer commutes where working families are "driving until they qualify" for housing that they can rent or buy.

The call for user based vehicle mileage travel fees - in Chapter 5 of the Environmental Justice section of the plan - will hurt the very people who are most disadvantaged. These workers are paying more as they travel farther to work at a good paying job and afford a place to live, thereby spending more of their income on basic necessities such as transportation and shelter.

BizFed recognizes the call for increased public transit service and multi-family transit-oriented housing production as a strategy to mitigate those concerns. We believe the implementation of these goals will be hampered by CEQA lawsuit abuses. Since 2013, over 70% of these CEQA lawsuits are targeted at stopping infill, multi-family, and transit-oriented housing. According to CARB, these are housing types are needed to invest and support our environmental goals.

In 2012 and 2016, SCAG's two prior RTP/SCS met the required GHG reduction targets. The RTP/SCS were the result of local input on land use planning, full respect for voter-approved funded transportation infrastructure projects as required by longstanding laws for efficient transportation and goods movement solutions.

These voter approved transportation projects are mostly funded from sales taxes which can be volatile to outside triggers such as the recession of 2008-10, resulting in a decrease of sales tax receipts. If these assumptions on VMT reductions, in the RTP/SCS, are to be delivered, we may see dramatic reductions in goods movement infrastructure and sales tax receipts, which are critical to the state's economy. The last time a significant reduction in VMTs occurred was during the recession of 2008-2010. However, with the current trends in e-commerce as well as alternative transportation mobility options such as Uber and Lyft, we have seen VMT's increase.

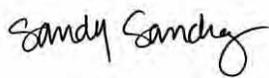
BizFed believes there is an opportunity to include in this plan strategies that will help deliver our housing and mobility goals. We want to partner with SCAG in making these goals a reality. We believe that policy tools such as; the return of community redevelopment agencies, leveraging tax increment financing to invest in affordable housing projects, and CEQA reforms against lawsuit abuses for transportation infrastructure projects and housing developments of all kinds both urban and rural, are essential to the conversation that will successfully implement this bold, economically and environmentally sustainable vision SCAG has laid out in the plan.

1

We appreciate SCAG's steadfast efforts to assure that SB 375 can be implemented, complying with its statutory protections for a healthy economy and growing population.

BizFed will help SCAG with the above solutions to truly connect all Southern Californians.

Sincerely,



Sandy Sanchez
BizFed Chair
FivePoint



David Fleming
BizFed Founding Chair



Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

BizFed Association Members

Action Apartment Association
 Alhambra Chamber of Commerce
 American Beverage Association
 American Hotel & Lodging Association
 American Institute of Architects – Los Angeles
 Angeles Emeralds
 Apartment Association, California Southern Cities
 Apartment Association of Greater Los Angeles
 Arcadia Association of REALTORS
 AREAA North Los Angeles SFV SCV
 Asian Business Association
 Association of Club Executives
 Association of Independent Commercial Producers
 Azusa Chamber of Commerce
 Bell Gardens Chamber of Commerce
 Beverly Hills Bar Association
 Beverly Hills Chamber of Commerce
 BNI 4SUCESS
 Boyle Heights Chamber of Commerce
 Building Industry Association, LA / Ventura
 Building Industry Association, Baldyview
 Building Owners & Managers Association, Greater LA
 Burbank Association of REALTORS
 Burbank Chamber of Commerce
 Business & Industry Council for Emergency Planning & Preparedness
 Business Resource Group
 CalAsian Chamber
 CalCFA
 California Apartment Association, Los Angeles
 California Asphalt Pavement Association
 California Association of Food Banks
 California Bankers Association
 California Bus Association
 California Business Roundtable
 California Cannabis Industry Association
 California Construction and Industry Materials Association
 California Contract Cities Association
 California Fashion Association
 California Gaming Association
 California Grocers Association
 California Hispanic Chamber of Commerce
 California Hotel & Lodging Association
 California Independent Oil Marketers Association
 California Independent Petroleum Association
 California Life Sciences Association
 California Manufacturers & Technology Association
 California Metals Coalition
 California Restaurant Association
 California Retailers Association
 California Small Business Alliance
 California Society of CPAs -Los Angeles Chapter
 California Sportfishing League
 California Trucking Association
 Carson Chamber of Commerce
 Carson Dominguez Employers Alliance
 CDC Small Business Finance
 Central City Association
 Century City Chamber of Commerce
 Cerritos Regional Chamber of Commerce
 Citrus Valley Association of REALTORS
 Commercial Industrial Council/Chamber of Commerce
 Construction Industry Air Quality Coalition
 Construction Industry Coalition on Water Quality
 Council on Trade and Investment for

Filipino Americans
 Covina Chamber of Commerce
 Culver City Chamber of Commerce
 Downey Association of REALTORS
 Downey Chamber of Commerce
 Downtown Long Beach Alliance
 El Monte/South El Monte Chamber
 El Segundo Chamber of Commerce
 Employers Group
 Engineering Contractor's Association
 EXP
 F.A.S.T. - Fixing Angelenos Stuck In Traffic
 FilmLA
 Friends of Hollywood Central Park
 Fur Information Council of America
 FuturePorts
 Gardena Valley Chamber of Commerce
 Gateway to LA
 Glendale Association of REALTORS
 Glendale Chamber of Commerce
 Glendora Chamber of Commerce
 Greater Antelope Valley Association of REALTORS
 Greater Lakewood Chamber of Commerce
 Greater Los Angeles African American Chamber
 Greater Los Angeles Association of REALTORS
 Greater Los Angeles New Car Dealers Association
 Harbor Trucking Association
 Historic Core Business Improvement District
 Hollywood Chamber of Commerce
 Hollywood Property Owners Alliance
 Hong Kong Trade Development Council
 Hospital Association of Southern California
 Hotel Association of Los Angeles
 Huntington Park Area Chamber of Commerce
 Independent Cities Association
 Industry Manufacturers Council
 Inglewood Airport Area Chamber of Commerce
 Inland Empire Economic Partnership
 International Warehouse Logistics Association
 Irwindale Chamber of Commerce
 La Cañada Flintridge Chamber of Commerce
 L.A. County Medical Association
 L.A. Fashion District BID
 L.A. South Chamber of Commerce
 Larchmont Boulevard Association
 Latino Food Industry Association
 LAX Coastal Area Chamber of Commerce
 League of California Cities
 Long Beach Area Chamber of Commerce
 Los Angeles Area Chamber of Commerce
 Los Angeles County Board of Real Estate
 Los Angeles County Waste Management Association
 Los Angeles Gateway Chamber of Commerce
 Los Angeles Gay and Lesbian Chamber of Commerce
 Los Angeles Latino Chamber of Commerce
 Los Angeles Parking Association
 Maple Business Council
 Motion Picture Association of America
 MoveLA a Project of Community
 NAIOP Southern California Chapter
 National Association of Royalty Owners
 National Association of Tobacco Outlets
 National Association of Women Business Owners
 National Association of Women Business Owners – Los Angeles

National Hispanic Medical Association
 National Latina Business Women
 Orange County Business Council
 Pacific Merchant Shipping Association
 Pacific Palisades Chamber of Commerce
 Panorama City Chamber of Commerce
 Paramount Chamber of Commerce
 Pasadena Chamber of Commerce
 Pasadena-Foothills Association of Realtors
 PhRMA
 Planned Parenthood Southern Affiliates of California
 Pomona Chamber of Commerce
 Propel L.A.
 Rancho Southeast Association of REALTORS
 Recording Industry Association of America
 Regional Black Chamber - San Fernando Valley
 Regional Chamber of Commerce-San Gabriel Valley
 Rosemead Chamber of Commerce
 San Dimas Chamber of Commerce
 San Gabriel Chamber of Commerce
 San Gabriel Valley Economic Partnership
 San Pedro Peninsula Chamber of Commerce
 Santa Clarita Valley Chamber of Commerce
 Santa Clarita Valley Economic Development Corp.
 Santa Monica Chamber of Commerce
 Sherman Oaks Chamber of Commerce
 South Bay Association of Chambers
 South Bay Association of REALTORS
 South Gate Chamber of Commerce
 Southern California Contractors Association
 Southern California Golf Association
 Southern California Grant Makers
 Southern California Leadership Council
 Southern California Minority Suppliers Development Council Inc. +
 Southern California Water Coalition
 Southland Regional Association of REALTORS
 Sunland-Tujunga Chamber of Commerce
 The Young Professionals at the Petroleum Club
 Torrance Area Chamber
 Town Hall Los Angeles
 Tri-Counties Association of REALTORS
 United Chambers San Fernando Valley & Region
 United States-Mexico Chamber
 Unmanned Autonomous Vehicle Systems Association
 US Resiliency Council
 Valley Economic Alliance
 Valley Industry & Commerce Association
 Vernon Chamber of Commerce
 Vietnamese American Chamber of Commerce
 Warner Center Association
 West Hollywood Chamber of Commerce
 West Los Angeles Chamber of Commerce
 West San Gabriel Valley Association of REALTORS
 West Valley/Warner Center Association Chamber
 Western Manufactured Housing Association
 Western States Petroleum Association
 Westside Council of Chambers
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 World Trade Center Los Angeles
 Young Professionals in Energy - LA Chapter



January 24, 2020

Sent via email and USPS

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Re: Draft Program Environmental Impact Report for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (State Clearing House Number 2019011061)

Dear Mr. Ok:

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Draft Program Environmental Impact Report (“DEIR”) for Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (“RTP/SCS”). The Center has reviewed the DEIR and RTP/SCS and provides these comments for consideration by the Southern California Association of Governments (SCAG).

The Center is encouraged to see several conservation facets of the RTP/SCS, including SCAG’s attention to preserve, enhance, and restore regional wildlife connectivity (RTP/SCS at 50), avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), encourage housing and commercial development near public transit and urban areas (RTP/SCS at 48) and incorporate greenbelts into planning initiatives (RTP/SCS at 55). The Center respectfully submits these comments to help achieve SCAG’s aspirations of a “healthier, safer, more resilient and economically vibrant region” by facilitating a comprehensive approach to growth that addresses human transportation and development needs, the needs of wildlife and habitats that are fragmented by transportation infrastructure and development, and how we can make human and natural communities more resilient to climate change.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Southern California.

I. The Connect SoCal Goals Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity

The Center is encouraged to see the inclusion of Goal #10, “Promote conservation of natural and agricultural lands and restoration of critical habitats” (DEIR at ES-7); however, integrating wildlife connectivity is critical to overall ecosystem health and biodiversity. Doing so would also improve chances of attaining other goals, including supporting healthy and equitable communities, reducing greenhouse gas emissions and improving air quality, and adapting to climate change. Preserving and restoring habitat connectivity would help ensure invaluable ecosystem services that benefit human communities, including but not limited to water purification, erosion control, groundwater recharge, resilience to extreme weather events (e.g., severe storms and flooding), carbon sequestration, and crop pollination.

As mentioned in the Center’s Notice of Preparation comment letter, roads and traffic create barriers that lead to habitat loss and fragmentation, which harms wildlife and people. As barriers to wildlife movement and the cause of injuries and mortalities due to wildlife vehicle collisions, roads and traffic can affect an animal’s behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, landscapes, and ecosystem function (Mitsch and Wilson 1996; Trombulak and Frissell 2000; van der Ree et al. 2011; Haddad et al. 2015; Marsh and Jaeger 2015; Ceia-Hasse et al. 2018). For example, habitat fragmentation from roads and traffic has been shown to cause mortalities and harmful genetic isolation in mountain lions in southern California (Riley et al. 2006, 2014, Vickers et al. 2015), increase local extinction risk in amphibians and reptiles (Cushman 2006; Brehme et al. 2018), cause high levels of avoidance behavior and mortality in birds and insects (Benítez-López et al. 2010; Loss et al. 2014; Kantola et al. 2019), and alter pollinator behavior and degrade habitats (Trombulak and Frissell 2000; Goverde et al. 2002; Aguilar et al. 2008). Habitat fragmentation also severely impacts plant communities. An 18-year study found that reconnected landscapes had nearly 14% more plant species compared to fragmented habitats, and that number is likely to continue to rise as time passes (Damschen et al. 2019). The authors conclude that efforts to preserve and enhance connectivity will pay off over the long-term and “[conservation] plans that focus solely on habitat area, will leave unrealized the substantial, complementary, and persistent gains in biodiversity attributable specifically to landscape connectivity,” (Damschen et al. 2019).

The Center recommends the goal be edited as follows:

Goal #10: “Promote conservation of natural and agricultural lands **and habitat connectivity** and restoration of critical habitats **and wildlife movement corridors.**”

II. The Connect SoCal Guiding Principles Should Include Maintaining and Enhancing Wildlife Movement and Habitat Connectivity to Protect Wildlife and Improve Public Safety

Wildlife vehicle collisions pose a major public safety and economic threat, as well as a threat to the region’s wildlife and biodiversity. During 2015 to 2018 more than 26,000 incidents involving vehicles and wildlife were reported to the California Highway Patrol, which included

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reports of animals standing next to, in, or running across lanes, collisions with large animals, or swerving to avoid collisions and resulting in a crash (Shilling et al. 2019). State reports and car insurance companies estimate that that 7,000 to 23,000 wildlife vehicle collisions (with large mammals) have occurred annually on California roads (Shilling et al. 2017; Shilling et al. 2018; Shilling et al. 2019; State Farm Insurance Company 2016, 2018). These crashes result in human loss of life, injuries, emotional trauma, and property damages that can add up to an estimated \$300-600 million per year and over \$1 billion from 2015-2018, based on reported wildlife vehicle collisions. And it is important to note that collisions with large animals often go unreported as much as 5- to 10-fold (Donaldson and Lafon 2008; Olson et al. 2014; Donaldson 2017) Thus, avoiding and minimizing impacts of transportation projects and development on wildlife movement and habitat connectivity would help preserve biodiversity and ecosystem health while protecting human health and safety.

The Guiding Principles should reflect the need to adequately address wildlife movement and habitat connectivity issues to minimize wildlife vehicle collisions. Outside of California many states, including Arizona, Colorado, Florida, Montana, Nevada, Oregon, New Mexico, Utah, Washington, and Wyoming, have been proactively addressing wildlife connectivity issues and realizing the benefits of wildlife crossing infrastructure. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al. 2012; Sawyer et al. 2012; Kintsch et al. 2018). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost \$6.2 million as part of a larger \$900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State transportation departments are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. California needs to follow suit and more actively invest in preserving habitat connectivity where there are no roads while also enhancing or restoring connectivity where roads or other transportation infrastructure already exist.

The Draft Plan recognizes two important ecological components about southern California. First, it recognizes the incomparable biological diversity of California, due primarily to its flora:

“The region’s desert, mountain and coastal habitats have some of the highest concentrations of native plant and animal species on the planet. Southern California is part of the California Floristic Province, one of the planet’s top twenty-five biodiversity hotspots.” (RTP/SCS at 23)

Secondly, it recognizes the significant contribution to greenhouse gas sequestration that plants, exposed soils and open space provide:

“In addition to their respective roles in biodiversity and food production, both natural areas and farmlands help reduce the impacts of climate change by capturing greenhouse gases in the soil, plants, and trees instead of allowing them to concentrate in the atmosphere.” (RTP/SCS at 36)

In addition, southern California native plants are adapted to our unique “Mediterranean” climate and persist in our relatively arid conditions where rainfall primarily occurs on the winter. For all of these reasons, the Draft Plan needs to adopt the commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Much literature is available on the use of native plants on roadsides. The Federal Highway Administration produced a Managers Guide to Roadside Revegetation Using Native Plants (FHA-DOT 2007), which notes:

“Native plants are a foundation of ecological health and function. Revegetating roadsides with native plants is a key practice for managing environmental impacts and improving conditions for healthy ecosystems. The ability to establish native plant communities on roadsides is central to determining whether the transportation corridor will be a healthy environment or a damaged one.”

The Guide continues to tout the benefits of using native plants along transportation corridors as follows:

“Native plants along roadsides offer ecological, economic, safety, and aesthetic advantages. Ecologically, healthy native plant communities often are the best long-term defense against invasive and noxious weeds. Economically, maintenance costs for managing problematic vegetation are reduced, as are the concerns that sometimes result when weeds from roadsides invade neighboring lands or when pollution from herbicides occurs.”

From the perspective of safety, the FHA states:

“The establishment of native plant communities supports transportation safety goals in a number of ways. One of the most important is by improving the function of roadside engineering. Appropriate vegetation can enhance visibility and support design features to help drivers recover if their vehicles leave the pavement. When native plant materials are incorporated into road design, they can improve long-term slope stability while softening visual experiences.”

Native roadside vegetation helps to identify local place, reduces the cost of roadside maintenance, and requires little to no pesticides (Quarles 2003). Tinsley et al (2007) found that native revegetation grass and forb seed mixes outperformed non-native seed mixes in establishing cover on roadsides and concluded that “suites of early- and late-successional native species can provide a highly effective mix for revegetation projects”. In order to assure successful planting with native plant species, care must be taken when planning native roadside

plantings. Plant selection must consider soil type and compaction from engineered slopes, harsh microclimates directly adjacent to roads, invasive species, and pollution from vehicle emissions. Haan et al. (2012) found that “soil characteristics largely determined plant survival” but other considerations were also important considerations. Karim and Mallik (2007) found that “floristic zonation along roadsides is a function of roadside microtopography, substrate type and environmental gradients created by the road building process” and that certain native plant species were more successful in certain zones. Therefore, careful selection of native species is crucial to successfully vegetating transportation corridors. Fortunately, California’s diverse native flora provides the diversity to meet the roadside zones. Several drought tolerant native species lists, tailored to local conditions are readily available for the South Bay of Los Angeles County¹ and coastal southern California².

Because of the ongoing pollinator crisis, the Draft Plan also needs to adopt the commitment to use best management practices for pollinators as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan. The Federal Highways Administration (FHA-DOT 2015) provides guidelines for best management practices that will benefit pollinators and includes a focus on using native plants. Wildlife connectivity typically focuses on large animals that require safe passage through and beyond their home territories and because of that scale, automatically protects a suite of more localized plants and animals. Here, linear roadside corridors are obviously inappropriate for large mammals, but can still be important and indeed crucial to plants and small animals, including invertebrates. Therefore, these types of linear features should not be overlooked for their potential ecological benefits.

While some of the SCAG transportation goals include roads and road improvements in urbanized areas, these areas provide great opportunities to transition plantings to native plants that are drought tolerant, sequester carbon, provide linear habitat for local fauna and identify a sense of place based on southern California’s iconic flora. For these reasons and those listed above, the Draft Plan would benefit from the incorporation of a commitment to the preferential use of native plants as part of the final 2020-2045 Regional Transportation/Sustainable Communities Plan.

Therefore, the Center recommends Connect SoCal Guiding Principles to be edited as follows:

Guiding Principle #2: Place high priority for transportation funding in the region on projects and programs that improve **human** mobility, accessibility, reliability and safety, and **wildlife connectivity that is based on native southern California flora**. ~~that preserve the existing transportation system~~

Guiding Principle #5: Encourage transportation investments that will result in improved air quality and public health **and safety**, and reduced greenhouse gas emissions

¹ See <https://bestofthesouthbay.com/10-drought-tolerant-california-native-plants/>

² See <https://www.scpr.org/news/2015/05/13/51644/go-native-a-list-of-drought-friendly-california-pl/>

III. The Projects on the Transportation System Project List Undercut the SCAG's Stated Land Use Strategies and Sustainability Goals

The Center is encouraged to see that SCAG's land use strategies include prioritizing infill and redevelopment; facilitating multimodal transportation for various purposes (*i.e.*, work, education, other destinations); urban greening; and avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas, and floodplains. However, the Transportation Project List contains over 300 pages of projects in Appendix 2.0, many of which include the widening and extension of freeways, which will result in increased greenhouse gas ("GHG") emissions and fragment landscapes and wildlife connectivity while promoting sprawl development, some of which is located in high fire hazard severity zones.

As the Center noted in its NOP comments to SCAG last year, scientific studies and state agency reports from the California Air Resources Board ("CARB") have shown the state will not achieve the necessary GHG emissions reductions to meet its mandates for 2030 and 2050 without significant changes to how communities and transportation systems are planned, funded and built. Significant reductions in GHG emissions is the only pathway to limiting the impacts of climate crisis, which are already being felt by people and wildlife throughout the state. Those reductions will not be achieved by small half measures of simply encouraging more zero-emission vehicles or hoping local agencies will change their land use decision-making in the future. Instead agencies at all levels—state, regional and local—must take head on the interconnected relationship between the climate crisis and land use, housing, workforce growth and transportation investments. Fundamental changes in land use planning for the future by local and regional land use agencies and hard questions about existing transportation plans must occur.

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For example, the Transportation Project List earmarks an astounding \$600,000,000 for the 138 Northwest Corridor Improvement Project to support leapfrog sprawl development like Tejon Ranch Company's proposed Centennial city. Centennial would be located 60 miles away from a major work center (*i.e.*, downtown Los Angeles) so the Project's anticipated 57,000 residents will be forced to drive long distances to reach jobs, schools, and supplies for decades during Project build-out. Centennial alone would generate 75,000 new vehicle trips per day, with an average trip length of 45 miles. The development will also pave over pristine native grasslands rich with endemic and rare species in a mountain lion movement corridor important for statewide genetic connectivity and an area designated as having very high fire hazard severity.

In addition to the 138 Northwest Corridor Improvement Project, there are many projects that involve paving over dirt roads, which could lead to increased traffic that would result in increased greenhouse gas emissions from increasing VMT and significant impact on small animal species since roads with heavy traffic may deter movement from a wide range of small animals (Brehme et al. 2013; Brehme et al. 2018). Transportation projects should focus more on public transit infrastructure and less on widening already large freeways and paving dirt roads, both of which facilitate the use of more cars and increase vehicle miles traveled, commute times, air pollution, and greenhouse gas emissions.

The Transportation Project List allocates many millions of dollars on I-15 expansion projects even while the I-15 continues to be a major barrier to mountain lion and wildlife

movement, and critical wildlife crossings along the I-15 remain unfunded. Instead of further degrading habitat connectivity by expending hundreds of millions of dollars on multi-lane highways in remote areas that will fill up with GHG emitting vehicles, SCAG should prioritize funding for more public transit and adequate wildlife crossings on existing highways. For instance, critical wildlife crossings such as the Liberty Canyon Wildlife Crossing are not yet fully funded. In fact, in the 300-page project list, there is only a *single* listed proposal for a wildlife crossing.

As it stands, the RTP/SCS contains laudable goals regarding sustainable development, reducing VMT, and increasing wildlife connectivity. However, many of the projects on the Transportation Project List will undercut these goals by increasing VMT and exacerbating existing connectivity problems. If SCAG is serious about addressing this region-wide issue, it should work to reallocate funding away from particularly damaging projects and instead allocate funding towards public transit and wildlife connectivity projects.

IV. SCAG Should Aim for Higher Per Capita VMT Reductions

The Center is encouraged by SCAG's goals and guiding principles that focus on supporting more development supported by existing public transit. (RTP/SCS at 8.) However, the Center believes SCAG can and should do more to reduce daily vehicles miles traveled. Increases in VMT negatively impact communities by leading to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Also, as noted above, the natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Therefore, any additional step SCAG takes to reduce VMT will have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

As currently drafted, the RTP/SCS boasts of a 4.1% reduction in VMT per capita from a 2045 baseline and a 9.5% reduction from the base year of 2016. (RTP/SCS at 5, 122.) However, these reductions are far less than reductions in VMT detailed in the December 2018 Technical Advisory issued by the Governor's Office of Planning and Research ("OPR VMT Report"). The OPR VMT Report concluded, "achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals." (OPR VMT Report at 12.) OPR emphasized that land use decisions to reduce GHG emissions associated with the transportation sector are crucial to meet the state's GHG reductions goals. (*Id.* at 3.) The OPR VMT Report further noted that because California cannot meet its climate goals without curbing single-occupancy vehicle activity, land use patterns and transportation options will need to change to support reductions in VMT. (*Id.* at 10.) Historically regional SCS and RTPs have lead increases in VMT rather than decreasing them as SB 375 intended. While SCAG's RTP/SCS has taken a small step in the right direction, it is not enough, and more fundamental changes are needed. The Center urges SCAG to utilize the RTP/SCS process to set the region on the path reducing its VMT at the level necessary to address the climate crisis and meet the state's GHG reduction goals.

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V. The DEIR Fails to Adequately Assess or Mitigate Impacts to Mountain Lions (*Puma concolor*) and Regional Wildlife Connectivity Throughout the SCAG Region

The Center is encouraged to see SCAG acknowledge the importance of wildlife corridors and habitat connectivity by including the preservation, enhancement, and restoration of regional wildlife connectivity (RTP/SCS at 50), avoiding growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas and floodplains (RTP/SCS at 55), and drawing attention to greenbelts (RTP/SCS at 55). Mountain lions are a key indicator species of wildlife connectivity. As the last remaining wide-ranging top predator in the region, the ability to move through large swaths of interconnected habitat is vital for genetic connectivity and their long-term survival. In addition, impacts to mountain lions in the SCAG region could have severe ecological consequences; loss of the keystone species would have ripple effects on other plant and animal species, potentially leading to a decrease in biodiversity and diminished overall ecosystem function. Without mountain lions, increased deer populations can overgraze vegetation and cause stream banks to erode (Ripple and Beschta 2006; Ripple and Beschta 2008). Many scavengers, including foxes, raptors, and numerous insects, would lose a reliable food source (Ruth and Elbroch 2014; Barry et al. 2019). Fish, birds, amphibians, reptiles, rare native plants, and butterflies would diminish if this apex predator were lost (Ripple and Beschta 2006; Ripple and Beschta 2008; Ripple et al. 2014).

In light of recent studies regarding imperiled mountain lion populations in Southern California, the DEIR fails to disclose or describe the RTP/SCS's severe impacts on mountain lion populations throughout the SCAG region. CEQA requires a "mandatory finding of significance" if there is substantial evidence in the record that the Project *may* cause a "wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species" (CEQA Guidelines § 15065(a)(1).) This means that a project is deemed to have a significant impact on the environment as a matter of law if it reduces the habitat of a species, or reduces the number or range of an endangered, rare, or threatened species.³ (See *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 792 fn. 12 [citing *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1273–1274].)

There is ample scientific evidence that indicates mountain lion populations in Southern California are imperiled and that human activities and land use planning that does not integrate adequate habitat connectivity can have adverse impacts on mountain lions. Continued habitat loss and fragmentation has led to 10 genetically isolated populations within California. Several populations in Southern California are facing an extinction vortex due to high levels of inbreeding, low genetic diversity, and high human-caused mortality rates from car strikes on roads, depredation kills, rodenticide poisoning, poaching, disease, and increased human-caused wildfires (Ernest et al. 2003; Ernest et al. 2014; Riley et al. 2014; Vickers et al. 2015; Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). This is detailed in the Center's petition to

³ On June 25, 2019, the Center and Mountain Lion Foundation submitted a petition pursuant to 14 Cal. Code Regs. § 670.1 to the California Fish and Game Commission requesting the Commission list the Santa Ana mountain lion population and other populations as "endangered" or "threatened" under the California Endangered Species Act.

the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019).

Mountain lions in the Santa Monica Mountains and Santa Ana Mountains were found to have dangerously low genetic diversity and effective population size, and they are likely to become extinct within 50 years if gene flow with other mountain lion populations is not improved (Benson et al. 2016; Gustafson et al. 2018; Benson et al. 2019). Due to extreme isolation caused by roads and development, the Santa Monica and Santa Ana mountains populations exhibit high levels of inbreeding, and, with the exception of the endangered Florida panther, have the lowest genetic diversity observed for the species globally (Ernest et al. 2014; Riley et al. 2014; Gustafson et al. 2018; Benson et al. 2019). In addition, Gustafson et al. (2018) found that the nearby mountain lion population in the San Gabriel/San Bernardino Mountains also has low genetic diversity and effective population size, which indicates that they too have a high risk of extinction. The long-term survival of these mountain lions, along with those in the Tehachapi and Sierra Pelona mountains, are vital for statewide genetic connectivity (Gustafson et al. 2018). Improved connectivity among the mountain lion populations within the SCAG Region and beyond is essential for the long-term survival of Southern California mountain lion populations (Gustafson et al. 2017; Gustafson et al. 2018; Benson et al. 2019).

Growth and development in identified “major highway projects” (RTP/SCS at Exhibit 3.2), “transit priority areas” (RTP/SCS at Exhibit 3.7), “priority growth area - high quality transit areas” (RTP/SCS at Exhibit 3.8), and “livable corridors” (RTP/SCS at 3.10) could have severe impacts on Southern California’s already-imperiled mountain lion populations. Such development without addressing wildlife connectivity issues and integrating effective wildlife crossings and corridors could lead to the extirpation of multiple mountain lion populations in the SCAG region. The RTP/SCS should encourage the involvement of wildlife connectivity experts from CDFW and other agencies, organizations, academic institutions, communities, and local groups starting at the initial planning stage of development and transportation projects so that habitat connectivity can be strategically integrated into project design and appropriately considered in the project budget. The RTP/SCS should require highway projects to include adequate wildlife crossing infrastructure in order to reduce impacts to mountain lions and other species.

Project planning should consider the impacts of climate change on wildlife movement and habitat connectivity in the design and implementation of projects and any mitigation. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifi et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with

suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012).

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VI. Conclusion

Thank you for the opportunity to submit comments on the DEIR and RTP/SCS for Connect SoCal. We look forward to working with SCAG to foster land use policy and growth patterns that promote wildlife movement and habitat connectivity, facilitate public health and safety, and move towards the State’s climate change goals. Please do not hesitate to contact the Center with any questions at the number or email listed below.

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Sincerely,



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(provided on CD via USPS)

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Sponsors:

California State University, Fullerton

County of Orange

Municipal Water District of Orange County

Orange County Council of Governments

Orange County Sanitation District

Orange County Transportation Authority

Orange County Water District

Southern California Association of Governments

Transportation Corridor Agencies

Contributing Partner:

Orange County Local Agency Formation Commission

January 22, 2020

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Uploaded via: <https://www.connectsocial.org/Pages/Draft-2020-PEIR-Comment-System.aspx>

SUBJECT: DRAFT 2020 RTP/SCS “CONNNECT SOCIAL” PEIR COMMENTS

Dear Mr. Ok:

The Center for Demographic Research has reviewed the Draft 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS, “Connect SoCal”) PEIR. We recognize and appreciate the work SCAG staff has done to produce these reports and work with local agencies during the development process and for the continued cooperation and reception of initial feedback and draft comments discussion.

1

We also want to extend our thanks for the close coordination between SCAG and the Center for Demographic Research (CDR) at California State University, Fullerton on behalf of Orange County jurisdictions to ensure that the 2020 RTP/SCS and PEIR preferred alternative’s growth forecast accurately reflects all entitlements, development agreements, projects recently completed, and projects under construction.

The CDR would like to express support of comments and recommendations on the Draft 2020 RTP/SCS PEIR by the Orange County Council of Governments, the Orange County Transportation Authority, and other Orange County agencies whose comments support Connect SoCal with its use of the Orange County’s growth forecast, the 2018 Orange County Projections. We thank you for the opportunity and ask for your consideration and response to the following comments detailed comments in Table 1 below. If you have any questions, please do not hesitate to contact me at ddiep@fullerton.edu or 657-278-4596.

2

Sincerely,



Deborah S. Diep
Director, Center for Demographic Research

EMAIL CC: CDR Management Oversight Committee
CDR Technical Advisory Committee
Ruby Zaman, CDR

Table 1. PEIR COMMENTS

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION
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#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
1	Define	Glossary, all pages	The PEIR only includes a glossary of acronyms. Please define the following terms and add to the glossary: Orientation timing, p. 1.0-13 Development centers Livable corridors p. 3.11-43 Neighborhood mobility areas p. 3.11-43 Urban infill p. 3.11-45 Compact/walkable (communities) p. 3.11-45 Destinations, p. 3.14-21 Mobility options, p. 3.14-21 Large-lot single-family, p. 3.14-23 Small-lot single-family, p. 3.14-23 ROW, p. 3.14-25	3
2	General Comment	All tables and figures	All tables and figures should cite original source data and not reference previous SCAG RTP documents.	4
3	General Comment	All data, tables and figures	All references to data that is interpolated, e.g., interpolating 2019 estimates from 2016-2020 or 2016-2045 growth increments, should be annotated as such. Each column/row in tables, as applicable, should be annotated to indicate if data was interpolated.	5
4	Clarification	ES-8, paragraph 2	“The region’s transportation network comprises more than 9,000 miles of public transit, 5,000 miles of bikeways, 135,578 lane miles of roadways, and 94 miles of express lanes.” Please clarify if ‘lane miles’ include highways and freeways.	6
5	Clarification	ES-9, paragraph 2	“There are many contributors to the overall housing shortfall, such as <u>state regulations</u> , zoning, costs and fees that prevent projects from... Additionally, population and employment growth in metropolitan areas in California has slowed in recent years, <u>in part</u> , because wages cannot compensate for the high cost of housing.”	7
6	Clarification	ES-9, paragraph 3	“Since the Plan <u>envisions</u> foresees regional growth with transportation system improvements, it identifies strategies to ...”	8
7	Clarification	ES-10, bullet 3	“Establish a mileage-based user fee <u>to replace the gas tax and to</u> generate a funding source for aging infrastructure and construction of other travel options”	9
8	Clarification	Table ES-5 p. 2.0-26	“PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	10
9	Clarification	Table ES-5 p. 2.0-27	“PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	11
10	Clarification	Table ES-5 p. 2.0-29	“PMM BIO-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wetlands, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	12

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
11	Clarification	Table ES-5 p. 2.0-30	“PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	13
12	Clarification	Table ES-5 p. 2.0-32	“PMM BIO-5: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce conflicts with local policies and ordinances protecting biological resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	14
13	Clarification	Table ES-5 p. 2.0-33	“PMM BIO-6: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on HCPs and NCCPs, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	15
14	Clarification	Table ES-5 p. 2.0-34	“PMM CULT-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	16
15	Clarification	Table ES-5 p. 2.0-36	“PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	17
16	Clarification	Table ES-5 p. 2.0-37	“PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	18
17	Clarification	Table ES-5 p. 2.0-39	“PMM-GEO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to paleontological resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	19
18	Clarification	Table ES-5 p. 2.0-39	“PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	20
19	Clarification	Table ES-5 p. 2.0-57	“PMM-NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	21

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
20	Clarification	Table ES-5 p. 2.0-64	“PMM-TRA-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to transportation-related impacts, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	22
21	Clarification	Table ES-5 p. 2.0-66	“PMM TCR-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects on tribal cultural resources, <u>where applicable and feasible</u> . Such measures may include the following or other comparable measures identified by the Lead Agency:”	23
22	Clarification	1.0-4, paragraph 3	“... Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, and Legislative/Communication & Membership Committee. In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees...” All these subcommittees do not report directly to the policy/standing committees. Please clarify the hierarchy of which committees/groups report to whom, e.g., working groups to staff, RHNA subcommittee to CEHD, etc., by listing all the committees and who they report to.	24
23	Clarification	1.0-12, paragraph 2	“...For purposes of the PEIR, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Available data that differs from this generalized explanation and used to determine existing conditions is specified in each resource section in Section 3.0 of this document.” All references to data that is interpolated, e.g., interpolating 2019 estimates from 2016-2020 or 2016-2045 growth increments, should be annotated as such. Please provide more information in the document, appendix or separate memo regarding how data was interpolated if various methods and sources were used.	25
24	Define	1.0-13, paragraph 3	“...However, because locations, densities, orientation timing, and...” Define ‘orientation timing’	26
25	Clarification	1.0-13, paragraph 3	“Intensified Land Use Alternative ... This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario... It also includes a greater progressive job-housing distribution optimized for TODs and infill in HQTAs.” Explain ‘Accelerated Tomorrow Scenario’ and ‘greater progressive job-housing distribution’.	27
26	Clarification	3.11-3, paragraph 5	“Regional Housing Needs Assessment (RHNA): Regional Housing Needs Assessment — <u>Legislatively-mandated state program that quantifies</u> Quantifies the need for housing within each jurisdiction of the SCAG region based on population growth projections. Jurisdictions <u>Communities</u> then address this need through the process of <u>updating</u> completing the housing elements of their General Plans.”	28
27	Correction	3.11-5, paragraph 4	“...El Centro Naval Air Facility, Fort Irwin, <u>Joint Forces Training Base- Los Alamitos</u> , Los Angeles Air Force Base...”	29
28	Clarification	3.11-11, paragraph 4	“...In addition to the standing committees, there are various subcommittees, technical advisory committees, working groups, and task forces that report to the standing committees...” All these subcommittees do not report directly to the policy/standing committees. Please clarify the hierarchy of which committees/groups report to whom, e.g., working groups to staff, RHNA subcommittee to CEHD, etc., by listing all the committees and who they report to.	30

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
29	Clarification	3.11-12, paragraph 1	<p>“City and county general plans must be consistent with each other.” This statement is not accurate. Delete.</p>	31
30	Clarification	3.11-15, paragraph 5	<p><u>“Multi-Family Residential (Attached units)</u> The term ‘multi-family units’ is used to describe those housing units that <u>Multi-family units</u> are attached residences. This includes apartments, condominiums, and townhouses, <u>even if townhomes are typically categorized as single-family units.</u> SCAG refers to housing in the RTP & PEIR as single-family and multi-family, while in practice, SCAG classifies units into two categories: single-family detached and all other units, which is generically referred to as ‘multi-family’.</p>	32
31	Clarification	3.11-20, paragraph 2	<p>“...In yet other instances, lands may be designated or zoned as open space <u>or as agriculture</u> but still allow for development of a single-family home.”</p>	33
32	Clarification	3.11-22, paragraph 2	<p>“Each local jurisdictional authority (city or county) with lands within the coastal zone is required to develop...” Include how far inland is considered to be in the coastal zone.</p>	34
33	Clarification	3.11-32, paragraph 1	<p>“Regional Housing Needs Assessment ...The California Department of Housing and Community Development (HCD), in consultation with each council of governments, determines each region’s existing and projected housing need.³⁵ HCD must meet and consult with each council of governments, including SCAG, regarding the assumptions and methodology to be used by HCD to determine the region’s housing need.³⁶ HCD’s determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans.³⁷ <u>SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.”</u></p>	35
34	Clarification	3.11-32, paragraph 4	<p>“The purpose of the housing element is to identify the community’s housing needs, <u>as determined by the RHNA process,</u> state the community’s goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs.”</p>	36
35	Clarification	3.11-33, paragraph 3	<p>“...If the total regional population forecasted and used in the regional transportation plan is within a range of three 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination...If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. <u>Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.”</u></p>	37

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
36	Clarification	p. 3.11-43, paragraph 2	“...Land use strategies included in the Plan aim to <u>redistribute focus</u> most of the new housing and job growth into high-quality transit areas (HQTAs), with 60 percent of new homes and 73 percent of new jobs being located in these Priority Growth Areas (PGAs), which include existing main streets, downtowns, and commercial corridors. Land use strategies also seek to <u>concentrate focus</u> growth in other PGAs, such as...”	38
37	Clarification	p. 3.11-45, paragraph 2	“In addition, it is possible that many general plans do not include similar regional policies as they are focused on land uses within the local jurisdiction.” What are the regional policies referred to?	39
38	Clarification	p. 3.11-45, paragraph 2	“For example, while the Plan includes strategies for compact development and higher densities as a means to accommodate increased population in an efficient manner, many jurisdictions are planning for smaller individual numbers and may assume <u>smaller lower</u> densities.” What are ‘smaller individual numbers’?	40
39	Clarification	p. 3.11-45, paragraph 2	“It is possible that local general plans have not been updated to reflect the land use assumptions within the Plan, <u>because jurisdictions do not have to change their general plans to be consistent with the SCS despite SCAG’s outreach and bottom up planning process for the reasons stated above.</u> As a result, there exists the potential for <u>SCAG’s projected land use pattern to conflict with</u> a local general plan <u>to conflict with SCAG’s projected land use pattern.</u> ”	41
40	Clarification	p. 3.11-45, paragraph 4	“As previously discussed, there are areas subject to general plans that would be impacted by transportation projects.” Are there areas not subject to general plans?	42
41	Clarification	3.14-1, paragraph 4	“Household: A household consists of all the people who occupy a housing unit. A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated people sharing a housing unit, such as partners or roomers, is also counted as a household. <u>There is no more than one household per housing unit.</u> ”	43
42	Clarification	3.14-1, paragraph 6	“Housing: As used in this analysis, housing is data available from the U.S. Census for the SCAG region for the period of 2000 through 2035. Housing is a general term used to describe multiple housing units.” Clarify years of data used and add DOF as a source.	44
43	Clarification	3.14-1, paragraph 7	“Housing Unit: A house, an apartment or other group of rooms, or a single room are regarded as housing units when occupied or intended for occupancy as separate living quarters. Different jurisdictions have slightly different definitions of what constitutes a housing unit.” Explain why jurisdictions may have different housing unit definitions.	45
44	Clarification	3.14-2, paragraph 3	“The six-county SCAG region encompasses 38,000 square miles in area (almost 25 million acres) and is home to approximately 19 million people as of 2019, making it the second most populous metropolitan region in the U.S. ^{1 1} American FactFinder. 2017. <i>2017 Population Estimates</i> . Latest data available for the U.S. is for 2018. Please update text and citation.	46
45	Clarification	3.14-3, Table 3.14-1	Correct source citations to U.S. Census Bureau Decennial Census 2000 and 2010. Cite original source of 2019 data as DOF or SCAG’s interpolated data as appropriate. SCAG Local Profiles contain 2018 data from DOF and 2017 from Census ACS due to the timing of publication of document and prior release of source data.	47

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION	
46	Clarification	3.14-4, top sentence	At a fundamental level, there is simply not enough housing for everyone who wants to live in the state <u>in the type of housing unit they can afford in the jurisdiction they prefer.</u>	48
47	Clarification	3.14-4, Table 3.14-2	Correct source citations to U.S. Census Bureau Decennial Census 2010 and 2019 data as DOF or SCAG’s interpolated data as appropriate.	49
48	Clarification	3.14-4, paragraph 3 Household Income	Data reported is from 2017 ACS and for whole counties, not just the incorporated cities within each county. Update text accordingly. Correct data to 2018 American Community Survey data and cite accordingly.	50
49	Clarification	3.14-4 & 5, paragraph 4 Household Size; Table 3.14-3	Data reported is from State DOF. Cite original data source, not SCAG past documents. Update data to most recent E-5 DOF 2019 estimates for all jurisdictions, not just incorporated cities.	51
50	Clarification	3.14-6, Table 3.14-4	Verify data and cite original data source, not SCAG past documents.	52
51	Clarification	3.14-7, Tables 3.14-5 & 6	Verify data and cite original data source, not SCAG past documents. Data is likely from State EDD if for wage & salary only. If these estimates are for total employment, including both wage & salary and self-employment, state this in a table note. If 2019 data is interpolated, indicate this in notes.	53
52	Clarification	3.14-8, Table 3.14-7	Verify data and cite original data source, not SCAG past documents. Source is likely State EDD for 2000.	54
53	Clarification	3.14-8 & 9	“...the following guiding principles approved by SCAG’s Regional Council on August 1, 2019.” RC agenda did not have these as an action item. Update guiding principles to current.	55
54	Clarification	3.14-13, paragraph 3	“Regional Housing Needs Assessment ... HCD’s determination is based on population projected produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans. ¹⁵ <u>SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG’s total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG’s population projections.</u> ”	56
55	Clarification	3.14-20, paragraph 6	“...SCAG holds growth projection numbers constant at the <u>jurisdiction</u> , county and regional level, meaning that as the distribution of population, housing and employment changes, the total numbers remain constant.”	57
56	Clarification	3.14-23, paragraph 3	“...Specifically, improved accessibility and connectivity potentially gained from transportation investments in the Plan could facilitate population and economic growth in areas of the region that are currently not developed or <u>are underdeveloped and in areas not currently planned for the type of density the Plan proposes.</u> ”	58

#	TOPIC	PAGE	RTP NARRATIVE, COMMENT & RECOMMENDATION
57	Clarification	3.14-27, paragraph 2	“...The Plan includes land use strategies that would redistribute <u>target</u> the region’s growth in the next 25 years into HQTAs, urban areas, and more walkable, mixed-use communities. Supported by other public amenities and transit services, housing in these areas tends to cost more <u>command higher</u> premiums and may be attractive to more affluent residents and unaffordable for <u>to</u> current residents in these areas.”



Innovate. Advocate. Achieve. Together.

January 24, 2020

Draft Connect SoCal PEIS Comments
Attn: Roland Ok
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Re: PEIS – Chapter 3.8 on Greenhouse Gases

Dear Mr. Ok:

Climate Resolve is pleased to submit the following comments on the Draft Connect SoCal PEIS.

Overall, there are many excellent sections within the draft. However, we wish, below, to provide both general and detailed comments to make the PEIS more contemporary and more relevant to the SCAG region.

1

Among the larger issues, we believe it insufficient and unhelpful to still use 2012 GHG emission data in 2020. We suggest that SCAG blend-in CARB data to present a more contemporary picture on emissions, specifically, the region’s sharp rise in transportation emissions.

2

Another major weakness is the sub-chapter on public health. We think it needs a lot of work, and have made suggestions below on where to find relevant data.

3

In its table of member municipalities, SCAG may wish to add an assessment of compliance with SB 379, SB 1000 and LHMPs. Climate Resolve has this data for each and every municipality within the SCAG region and would be happy to share.

4

Last, SCAG needs to state up-front the State of California’s current position on GHG reductions – namely that EO B-55-18 commits the state to carbon neutrality by 2045. The Newsom Administration is continuing the Brown Administration’s approach – and we see no reason to believe that this policy will be the operational policy of the state going forward.

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On specific content within the chapter:

Page 3.8-1:

- Paragraph 2:
o “Nitrous Oxide NO2” change to “N2O”
• Paragraph 3:

6

- o "... atmosphere are thought to be linked" should be change to "are linked".
"Thought to be linked" sounds equivocal, as if scientists remain uncertain. The science is clear, and SCAG should state it as such.

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Page 3.8-2:

- Change Nitrous Oxide abbreviation to "N2O"

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Page 3.8-3:

- Change Nitrous Oxide abbreviation to "N2O"

9

Page 3.8-5:

- Paragraph 1:
 - o The caveating language about the range of climate impacts is absurd and needs to be changed. There is no serious debate on whether GHGs "have caused" or "will cause" climate change. The leading uncertainty concerns the rate of GHG emissions, not whether science can accurately predict impacts.
 - o Therefore, we suggest that SCAG remove the word "significant" in "there continues to be significant debate over the extent..."
 - o And remove the caveating language whether GHG has caused or "will cause" climate change?.
- Paragraph 2:
 - o Add "longwave" to "GHGs are any gas that absorbs **longwave** radiation in the atmosphere"
 - o We noticed a curious absence of referring to peer-reviewed climate studies that cover the SCAG region, especially Cal-Adapt, as well as the State of California Fourth Climate Change Assessment and two regional studies covering the Los Angeles Region and Inland South, see <http://climateassessment.ca.gov/> and <https://cal-adapt.org/>.

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Page 3.8-6:

- We noticed the authors using global data on glacier loss, we suggest that SCAG also cite California specific glacier loss information from the 2018 OEHHA climate indicators report: <https://oehha.ca.gov/climate-change/document/indicators-climate-change-california>; and cite the same report for migration of species (aka refugia).
- For reference 10, on snowmelt rates, we noticed that SCAG uses an old 2006 datapoint. We suggest updating your data by citing either the California 4th Climate Change Assessment or Schwartz, Hall, et al "Significant and Inevitable End-of-Twenty-First-Century Advances in Surface Runoff Timing in California's Sierra Nevada" from 2017, <https://journals.ametsoc.org/doi/pdf/10.1175/JHM-D-16-0257.1>.

11

Page 3.8-8:

- Paragraph 1: change "from" to "by" in "this would further exacerbate hazard posed from dead trees.
- Paragraph 2: please reference the groundbreaking wildfire study by Jin, Randerson, Hall, et al as it focuses on the Southern California / SCAG Region: "Identification of two distinct fire

12

regimes in Southern California: implications for economic impact and future change," <https://iopscience.iop.org/article/10.1088/1748-9326/10/9/094005>

- Paragraph 3: in the SCAG region is the US’s leading research institution on acidification and hypoxia, the Southern California Coastal Water Research Project, located in Costa Mesa. In fact, SCCWRP’s director co-chairs the West Coast Ocean Acidification & Hypoxia Science Panel. We suggest referencing their reports: <http://westcoastoah.org/westcoastpanel/>.

12

Page 3.8-9:

- Paragraph 1: It is curious why SCAG does not cite regionally-specific studies related to flood events. The Bureau of Reclamation has produced three studies that generally cover the SCAG territory. The LA Basin Study, <https://www.usbr.gov/lc/socal/basinstudies/LABasin.html>, the Santa Ana Watershed Basin Study: <https://www.usbr.gov/lc/socal/basinstudies/OWOW.html>, and the Southeast California Regional Basin Study: <https://www.usbr.gov/lc/socal/basinstudies/SECA.html>. We suggest referencing these important locally-focused studies.

13

Page 3.8-11:

- First and preceding paragraph and Table 3.8-2: The text and table showing China’s current lead in GHG emissions is curiously both accurate and misleading. It is misleading in that a single year does not yield the full view of GHG emissions. (How to calculate GHG emissions is one of the most contentious issues at the United Nations.) We believe it is only fair to also include data and charts/graphs associated with cumulative GHG emissions. The World Resources Institute — a source used by SCAG in other sections — suggests that from 1850-2011 the United States and Western Europe have together contributed over 50% of global GHG emissions. See <https://www.wri.org/blog/2014/11/6-graphs-explain-world-s-top-10-emitters>. We see it as important to view GHG emissions both ways — describing present day data as well as cumulative emissions. Related idea, SCAG may wish to further analyze China’s GHG emissions, as well as other developing countries’ emissions, related to embedded carbon, especially those materials being produced for export to developed nations — which could be as high as 25% of all emissions; see National Academy of Sciences: <https://www.pnas.org/content/early/2010/02/23/0906974107.abstract>.

14

Page 3.8-12 and 3.8-13:

- Table 3.8-3: Please explain why SCAG is not using California Air Resources Board inventory data in the table. It would be helpful to show discrepancies between IPCC assumptions and CARB data, especially important because CARB demonstrates that California’s transportation emissions are higher than what IPCC suggests.

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Page 3.8-14:

- Paragraph 2: It is insufficient and unhelpful to still use 2012 data in 2020. We suggest SCAG use statewide CARB data to present a more contemporary picture on emissions, specifically, the region’s sharp rise in transportation emissions.

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Page 3.8-15:

- Has SCAG evaluated black carbon contributions to local GHG emissions? This is especially important as there has been a steep rise in port activity since 2012, which also suggests an

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increase in diesel use along with associated black carbon emissions. Please consult with South Coast AQMD.

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Page 3.8-16:

- The public health section is paltry and insufficient. The section needs to be greatly enhanced. SCAG may reference any number of relevant studies ranging from CALBRACE reports, <https://www.cdph.ca.gov/Programs/OHE/Pages/CalBRACE.aspx>, especially those created for individual counties: <https://www.cdph.ca.gov/Programs/OHE/Pages/ClimateHealthProfileReports.aspx>. There is also the County of Los Angeles OurCounty sustainability plan, the California 4th Climate Change Assessment, especially its CHAT tool (which can be used for determining heat impacts on human health): <https://www.cal-heat.org/>
- End of page, second to last bullet: please edit to add “no carbon” option to “low carbon” as well.

18

Page 3.8-17:

- Add to bullets: “transitioning from use of flurochlorines in industry”
- The seven strategies recommended are paltry and insufficient. There are easily hundreds of interesting relevant strategies that SCAG member cities and COGs could deploy. We strongly suggest adding at least 15 more adaptation strategies. (In our view, SCAG should also highlight social resilience or social cohesion, as a key strategy. Cool streets and parking lots should also be highlighted — as should investment in resilience hubs and enhancing emergency management communications.) A quick survey of Safeguarding California will provide additional strategies. See <http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>
- Last Paragraph: add Local Hazard Mitigation Plans (LHMPs) to “these actions take the form of climate action plans, general plan policies, **Local Hazard Mitigation Plans (LHMPs)**, GHG reduction plans, sustainability plans, and ordinances.”

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Page 3.8-27:

- **3.8.2.3 State**
 - Add discussion on LHMPs, SB379, SB1035, and SB1000

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Page 3.8-49:

- **Cities:** add COGs Climate Action / Climate Adaptation Plans
 - (e.g., South Bay Cities’ 2019 COG Climate Adaptation Plan http://southbaycities.org/sites/default/files/documents/FinalSubRegionalAdaptationPlan_Sep_2019.pdf)

21

Page 3.8-51:

- Table 3.8-4:
 - The City of Lakewood has not adopted a Climate Action Plan, please change.
 - Most of these links are to the municipalities’ website **and not individual plan**
 - Suggestion: Hyperlink to each plan where adopted

22

- Include separate columns for GHG reduction policies and climate change adaptation strategies in general plans, to get a better sense of how well their General Plan addresses climate change. There are columns "Adaptation or Resilience Plan", but some cities choose to detail their adaptation plans within their General Plan.
- SCAG may wish to add an assessment of compliance with SB 379, SB 1000 and LHMPs. Climate Resolve has this data for each and every municipality within the SCAG region and would be happy to share.

22

Page 3.8-63:

- For both tables, "NO2" change to "N2O"

23

If you have any questions related to our comments on the PEIS, please do not hesitate to

Sincerely,



Jonathan Parfrey
Executive Director

24

p.s. I also wish to thank Kristopher Eclarino (Climate Resolve Fellow) for his contributions to the letter.

Daniel Burruel – Keep Nuevo Rural

All opened space, conservation areas should be connected creating a corridor for wildlife. For example, the El Potrero and the San Jacinto Wildlife Area must link together without any interruption of mass development, freeways, and so on, in between these open spaces. Green belts should run straight through cities; green threads of open spaces that run directly through the city of Perris, for example, must be promoted and adopted as models of open spaced systems to help promote a healthy community/city (Clive Greenbelt in Illinois, for example). The proposed project of warehouse development should be halted and open spaces, for example, in the rural, unincorporated community of Nuevo, and south of Ramona Expressway, along the banks of the San Jacinto River, should remain a vast open space. If SCAG is truly committed to embracing and advancing healthy communities, then proposed plans, such as SP 239 (Stoneridge Commerce Center), then proposed plans like this one should be completely abandoned. Thank you.

UNITEHERE! Local 11

464 Lucas Ave., Suite 201 • Los Angeles, California 90017 • (213) 481-8530 • FAX (213) 481-0352

January 24, 2020

VIA EMAIL: 2020PEIR@scag.ca.gov

Roland Ok
Southern California Association of Governments
900 Wilshire Blvd., 16th Floor
Los Angeles, CA 90017

RE: COMMENTS ON DRAFT PEIR 2020 SCAG RTP/SCS (SCH # 20199011061)

Dear Mr. Ok:

UNITE HERE Local 11 hereby provides these comments on the draft Program Environmental Impact Report (“PEIR”) for the draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy plan (“Plan” or “2020 RTP/SCS”), by the Southern California Association of Governments (“SCAG”) under the California Environmental Quality Act, Pub. Res. Code § 21000 *et seq.* (“CEQA”).

Local 11 represents more than 25,000 workers employed in hotels, restaurants, airports, sports arenas, and convention centers throughout Southern California and Phoenix, Arizona. Members of Local 11, including hundreds who live or work in the SCAG region, join together to fight for improved living standards and working conditions. Local 11’s members have a direct interest in seeing that the State’s environmental/planning laws are being followed and that new development and regional planning efforts do not contribute to the climate-change crisis that threatens a loveable future in Southern California for them and their children.

1

Here, one of the fundamental objectives of the 2020 RTP/SCS and PEIR is to provide *specific* strategies, policies, performance standards, and other provisions that *will* reduce greenhouse gas (“GHG”) emissions pursuant to Senate Bill 375 (“SB 375”). To this end, Local 11 provides the following questions and requests for information about the Plan’s specific GHG strategies that need to be included in a recirculated or final PEIR.

2

- A. Under the Plan, GHG per capita emissions from automobile and light-duty vehicles (“LDA”) are anticipated to drop from 23.8 lbs/day (2005) to 21.3 lbs/day in 2020, and further reduced to 18.8 lbs/day in 2035 (see PEIR, Tbl. 3.8-10). Please clarify the following:

3

- 1. How were these targets developed, what data was used, and what are the exact underlying calculations? What are the specific data and targets for each city and county within the SCAG region? 3
- 2. Are these targets for all project types or specific project types (e.g., residential, office, retail, hotel, mixed-use, etc.)? 4
- 3. Is the *capita* merely residents, residents + employees, or something else? 5
- 4. What is the trajectory of these GHG reductions over the duration of the Plan? Are there specific targets during the interim years between 2020-2035, or merely a straight-line negative compound annual growth rate? 6
- 5. Why are 2005 baseline emissions calculated based on EMFAC2007, but 2020 and 2035 levels based on EMFAC2014? 7

- B. Under the Plan, per capita Vehicles Miles Traveled (“VMT”) from LDAs and all vehicles are to be reduced from 22.09 VMT and 23.79 in 2009 (respectively) to 20.67 and 22.89 in 2045 (respectively) (see PEIR, Tbl. 3.8-11). Please clarify the following: 8
 - 1. How were these VMT targets developed, what data was used, and what were the exact calculations? What are the specific data and VMT targets for each city and county within the SCAG region? 9
 - 2. Are these VMT targets for all project types or specific project types (e.g., residential, office, retail, hotel, mixed-use, etc.)? 10
 - 3. What is the trajectory of these VMT reductions? Are there specific targets during the interim years between 2020-2035, or merely a straight-line negative compound annual growth rate? 11
 - 4. Clarify whether these VMTs are from just the residential population or also employees? 12
 - 5. What data/metrics are specific to employee trips? 13
 - 6. What are the VMT projections for the residential and employee populations, as well as the disaggregated data for the various cities and counties within the SCAG region? 13

- C. Under the Plan, various Plan goals are tied to key specific performance standards (see Plan, Performance Measures Report, Tbls. 1, 2, 4, 20). However, many of the standards are not made clear and require clarity, including: 14
 - 1. For Outcome 1(1) (id. pp. 15-16), what is the disaggregated data (e.g., what are the household/employment figures for each city and county within the SCAG region in 2016 and 2045 under both “Baseline scenario” and under the Plan scenario)? 14
 - 2. For Outcome 1(4) (id. p. 16), what is the disaggregated data (e.g., 2016 base year and Connect SoCal VMT levels for each city, and what is the interim targets between those years)?
 - 3. For Outcome 1(5) through (7) and Outcome 2 (1) through (6) (id. pp. 18-28), what is the disaggregated data (e.g., counties and cities), how were

these calculated/modeled, and how are projects able to demonstrate consistency with these performance metrics?

- 4. For all performance measures under Location Efficiency and Safety and Public Health (id. at pp. 56-58 [Tbl. 20]), what is the disaggregated data (e.g., counties and cities), how were these calculated/modeled, and how are projects able to demonstrate consistency with these performance metrics?

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- D. Under the Plan, four measures are listed as SCAG mitigation measures (e.g., SCAG “shall continue to work with” local agencies to adopt Climate Action Plans (“CAP(s)”), “shall encourage energy efficient design” through strengthening local building codes, “shall continue working with partners” to support deployment of electric vehicle (“EV”) charging stations, “shall continue to pursue partnerships” to promote energy-efficient development) (see PEIR, p. 3.8-68). Please clarify the following:

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- 1. What exactly do “work” or “encourage” or “working with” or “pursue” mean, and are these enforceable performance standards as CEQA requires?
- 2. What specifically is required to satisfy these vague mitigation measures?
- 3. What specific criteria can one objectively look at to determine compliance with these mitigation measures?
- 4. What specific performance-based criteria apply to these non-specific mitigation measures?
- 5. Why is there no consideration of specific actions listed (e.g., work with local agencies to develop CAPs that meet specific GHG reduction targets, or encourage local building code updates that require mandatory CalGreen Tier 1 or Tier 2 standards, or work with partners/agencies to support specific percentage of code-required parking to be EV-immediate charging, etc.)?
- 6. What other SCAG-related mitigation was considered and found infeasible?

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- E. Under the Plan’s Sustainable Communities Strategy Report, Appendix 1 (i.e., SPM Place Types), no mention is given as to hotel project types. Please explain how hotels are accounted for in the Plan, also the assumptions, intensification, traffic generation, GHG generation, and other relevant data specific to hotel uses/projects.

22

Local 11 appreciates the opportunity to provide these comments to SCAG, and looks forward to a detailed response item by item with all requested supporting data. Please also provide us with all notices of CEQA actions or public hearings on the Plan/PEIR. Please send notice by e-mail to: yzeltser@unitehere11.org.

23

Sincerely, 

Charles Du
Staff Attorney, UNITE HERE Local 11



**SOUTHERN CALIFORNIA
LEADERSHIP COUNCIL**



January 24, 2020

via U.S. Mail to:

Draft Connect SoCal Plan & PEIR Comments
Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

and by electronic mail to: 2020PEIR@scag.ca.gov

Re: Comments on the the Draft “Connect SoCal” (SCAG’s 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy) and the Related Draft Program Environmental Impact Report (PEIR).

Ladies and Gentlemen:

On behalf of the Southern California Leadership Council (SCLC), the Building Industry Association of Southern California (BIASC) and the other business/industry associations subscribing to this letter, we appreciate this opportunity to comment on the Draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (“Connect SoCal”) and its associated Program Environmental Impact Report (draft “PEIR”). Our comments set forth below relate to both the draft policy document (i.e., the draft Connect SoCal) and the related

draft PEIR because our concerns about each are inextricably related. We therefore respectfully ask SCAG to consider our comments below in the context of both SCAG's policy determinations and its compliance with the California Environmental Quality Act ("CEQA"), the discussion of which begins on page 12 hereof.

1

Our organizations, and the members and industries that they represent, have been involved with the implementation of Senate Bill 375 (2008) (hereinafter "SB 375") ever since its original introduction. As Southern California stakeholders, we were also highly attentive to and involved in the formulation and adoption by the Southern California Association of Governments ("SCAG") of its inaugural, 2012 regional transportation plan/sustainable communities strategy ("RTP/SCS") and its more recent 2016 RTP/SCS. Indeed, we have been heavily involved with SCAG's activities for the entire last decade.

The companies and individuals comprising our collective memberships care very deeply about economic development, job creation and the quality of life in Southern California. Many of our members engage in developing the housing, business properties and infrastructure (i.e. transportation, water, utilities, etc.) that are and will be needed to make the region the best possible place to live and work. Collectively, our organizations also include some of Southern California's largest private employers. With that in mind, the comments set forth below about SCAG's draft Connect SoCal and the related draft PEIR are based on our concern for the overall betterment of the SCAG region, its economy, its communities, and its citizens.

2

When we weighed in concerning SCAG's 2012 RTP/SCS, its 2016 RTP/SCS, and recently in February 2019 concerning the scoping of the PEIR Connect SoCal, our group has consistently espoused principles concerning SCAG's regional planning efforts; and we've always championed consistent policy outcomes. Even more recently, in September 2019, our coalition commented to SCAG concerning its then-proposed allocation of a preliminary sixth-cycle Regional Housing Needs Assessment (RHNA) for the SCAG region. When we did so, we recounted both the principles that we espouse and the societal and economic outcomes that we champion. We will also set them forth again below as they relate to the present context.

But before getting into such details, we will state here briefly our overall view of the draft Connect SoCal and its draft PEIR:

Insofar as the draft Connect SoCal relates to the distribution of new housing and purports to accommodate housing production, we believe that it takes large steps leading in the wrong direction. Our region is suffering from an urgent and worsening housing crisis, one which can be solved only through extraordinary increases in housing production and consequent improvements in housing affordability. Yet, if adopted as it is drafted, Connect SoCal will foreseeably combine with SCAG's most recently vetted sixth-cycle RNHA allocation to channel the majority of the region's future homebuilding overwhelmingly into already developed, densely urbanized areas. When combined, they largely aim for the near-total preclusion of other types of reasonable and appropriate community development (specifically suburban, annexed edge, greenfield and new town development). This is a dangerous policy prescription for any region that is suffering from a critical housing crisis, because it depends almost entirely on realizing – without precedent –

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massive production of the type of new housing that both is the hardest to produce and costs the most.

We recognize that SCAG's rationale for its heavy emphasis on infill is caused by increasingly imposing state mandates to reduce per capita VMT. However, we believe SCAG, when planning our region's future, must address and confront the need to balance VMT impacts against housing impacts both wisely and realistically. We believe that, unfortunately, SCAG's most recent proposals do not strike a wise and realistic balance of the kind that is needed now. Instead, if both the draft Connect SoCal and SCAG's recently-vetted RHNA distribution methodology were to be adopted as they are now proposed, they would combine to propel our region in the wrong direction vis-à-vis housing production and affordability. Given the severity of our region's housing crisis and the urgency of this moment, when SCAG's RTP/SCS and RHNA will converge to set a new course for land use throughout Southern California well into the future, it is imperative that we pause and get it right.

3

Therefore, we respectfully urge SCAG to do what its southern brethren, the San Diego Association of Governments (SANDAG), did recently: seek and obtain permission to take an additional year in which to study and correct its overall regional planning. Our group would like to work with SCAG over the course of 2020 to fashion a much more realistic final Connect SoCal – one that will accommodate the entitlement of new housing units in such quantities, at such locations, and at such levels of affordability as will permit the housing of the SCAG region's population.

Lastly, we strongly urge SCAG to undertake preparation of an alternative planning scenario (APS) alongside a substantially revised and realistic sustainable communities strategy (SCS). As long as the California Air Resources Board (CARB) continues to impose unrealistically high targets for greenhouse gases (GHG) reductions which can be demonstrated only through radical cuts in per capita VMT, consequently worsening of our housing supply and affordability crises, SCAG should recognize and admit that such targets cannot possibly be met consistent with adopting a more realistic and appropriately accommodating SCS. The preparation of a complementary APS, therefore, one that reflects radical VMT reductions that CARB wants to see – however illusory they may ultimately prove to be, would allow SCAG to comply with its statutory requirements while simultaneously putting in place a much more realistic and beneficial RTP/SCS.

4

As the draft Connect SoCal reads now, poised for its potential final adoption if not changed substantially, it will constitute a harmful policy document vis-à-vis housing supply and affordability at a time when the housing crisis indicates the need for a major course correction in policy. Consistent with this need, SCAG should recognize, grasp, and begin to champion urgently the need for changes in our state government's planning policies. Specifically, the current policies should be corrected so that SCAG's still-pending sixth-cycle RHNA allocation and its transportation planning do not continue driving the SCAG region down the road toward unduly centripetal development and re-development, with negative ramifications for housing supply and unaffordability. Accordingly, SCAG should lead regional planning toward a more balanced mix of both urban and peripheral development.

5

DISCUSSION:

A. Our Group's Consistent Principles and Warnings Concerning SCAG's SCS Planning.

As is noted above, as our coalition has worked with SCAG's staff over the last decade, we have consistently espoused certain principles that we believe are essential to the effective and successful growth and development of the SCAG region. Last September, in connection with our comments concerning the then-proposed sixth-cycle RHNA allocation, we restated our support for sound regional planning that does all the following:

- Provides positive economic impacts and is a plan that is conducive to economic growth and job creation – Our organizations and our members are extremely aware of the economic implications of the spatial dispersion of homebuilding. When viewed at all scales (at the regional, the local, and the neighborhood levels), missteps and mistakes concerning how best to distribute land uses can profoundly impact economic vibrancy and stability. Specifically, the RTP/SCS must undergo a true economic cost/benefit analysis so that economic impacts are understood and known by SCAG Regional Council members (and stakeholders) before making a final decision on the RTP/SCS.
- Reasonably respects local governments' prerogatives – Policymakers need to respect the essential role of local government in sound land use decision-making, because local governments (much more than relatively central governments) have the best understanding of local needs, pressures, and aspirations of their growing and evolving communities. Maintaining local control of land use is essential to maintaining so-called “small d” democracy.
- Appreciates the organic nature of land use and development – Policymakers must appreciate the organic and dynamic nature of land development over time. Given this reality, land use planning must reflect continuous balancing and rebalancing of possible growth alternatives such as urban redevelopment and densification, and new town or greenfield development.
- Does not impose unrealistic, inflexible land use prescriptions on diverse jurisdictions – Our respective members constitute the businesses and individuals who know how to actually build new homes and communities. Accordingly, we see the many varying opportunities and challenges that are inherent in providing necessary housing throughout the SCAG region. Because of the widespread work that our members regularly undertake, we see the need for local governments to continue to entitle for new housing development or redevelopment on many diverse sites. Local governments must retain and exercise the necessary flexibility to take into account diverse local conditions of all types when making sound land use and entitlement decisions.
- Assures that new revenue sources are put in place to allow local governments to plan for achievable densification, while appreciating the beneficial primacy of market forces – Our

group has noted in other contexts (such as pertaining to SCAG's RTP/SCS development) that many of the desired changes in existing land uses are unlikely to occur unless there are put in place new and sufficient financial tools benefiting local government and public infrastructure. For example, in recent years, California dispensed with its erstwhile favorable urban redevelopment agency policies. Such helpful policies and tools must be restored and improved upon if local governments are required to spur positive community development and, especially, redevelopment.

- Anticipates and, where possible, overcomes legal and procedural roadblocks to housing construction – For years, our group has been calling for meaningful CEQA reform and other changes which would allow homebuilding to proceed more quickly when faced with NIMBYism and community resistance against change. In this environment, CEQA can be misused to halt progress toward housing goals. Sound regional planning, therefore, should meet all CEQA requirements and, more importantly, facilitate all related streamlining. Additionally, the state should adopt measures necessary to prevent the ongoing abuse of CEQA as a means to stop or significantly delay much needed and worthwhile housing projects.

6

Whereas the principles set forth above are stated as positive characteristics, we have also shared our continuing views about the negative effects of some of the unhelpful policy directives that have been applied in California and the SCAG region. To a large extent, we remain sorely disappointed by the fact that there remain far too many regulatory and legal impediments to homebuilding. Several persistent regulatory trends are actually working against meaningful increases in housing production, and especially production at the scale needed to alleviate our state's housing crisis.

First, there is a strong, growing and thus ever-worsening regulatory preference for fostering transit-oriented, urban infill, and increasingly dense, multi-family development and redevelopment. While we certainly support reasonable efforts to increased production of higher density housing within the urban core, this particular housing type should be deployed in reasonable relative volume, in appropriate locations, and with a clear understanding and appreciation of the heightened costs that are associated with an excessive reliance on such dense, urban-infill housing types.

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With that in mind, we do not support an over-reliance on increased urban densification to the exclusion of more affordable, common and readily-available community types. The regulatory trend toward an over-emphasis on urban renewal and densification is particularly problematic from an affordability standpoint because the costs of building urban housing is often several times higher (on a square foot basis) than are the costs of other available and potential housing types – particularly less dense, suburban, and peripheral types of development, which are variously called relative “greenfield,” “new town,” “edge,” or “fringe” development.

Because the costs of developing and constructing dense urban housing is much higher than other types of homebuilding, fewer households can afford to buy or even to rent such new urban housing, at least not without significant government subsidies or housing assistance

programs. As a consequence, the still-growing regulatory preference for more intense urbanization, and the broad disfavoring of any and all greenfield development, are leading to sharp housing cost and price increases. These in turn exacerbate the under-supply of housing, and decrease both home ownership and regional living standards. These harmful trends should be especially alarming to those who are concerned about social equity and economic mobility – because home ownership has long provided a critical pathway for working class households to both secure housing and to accumulate family wealth and financial security.

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As noted, the excessive regulatory preference for urban densification and redevelopment has been accompanied by complementary regulations aimed at curbing homebuilding activities of all types that do not constitute high-density, urban, “transit-oriented” or so-called “centripital” (i.e., moving toward the center) development. The best example of this is the recently-imposed requirement to apply the California Environmental Quality Act (“CEQA”) to effectively tax and disincentivize vehicle miles traveled (“VMT”) – which is a costly attack on individual mobility alone, with profound implications for millions of prospective households. At a minimum, these new CEQA requirements related to VMT add further disincentives, costs, and hurdles to greenfield and new town development.

Concerning these new VMT mandates, everyone can agree on the need for efficient, smart, safe and well-functioning regional transportation solutions. Rather than focusing excessively on reducing VMT and individual vehicular mobility, however, new housing opportunities should be promoted, considered and pursued with proper attention to all of the following:

- (i) the relative costs of construction and infrastructure,
- (ii) the public demand for different housing types and at different prices (to accommodate social equity for working households),
- (iii) the relative costs of providing different housing types in different areas (e.g., urban versus greenfield or edge), and
- (iv) the complicated relationships among housing and job locations (e.g., achieving a jobs-housing balance sometimes requires putting more housing where jobs are, even when jobs are located outside of the urban core).

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Regrettably, the draft Connect SoCal very much perpetuates, incorporates and reflects the harmful policy push toward radical per capita VMT reductions. Again, we appreciate that SCAG feels compelled to do so in light of a state agency’s (CARB’s) mandate forcing SCAG to focus on VMT reductions as the primary means to demonstrate GHG reductions. In our view, however, the time has come for SCAG to take the lead in pushing back strongly against such state mandates, so that more realistic and ameliorative regional planning can then unfold. In doing so, SCAG should point out to state regulators that its decisions concerning the dispersion of new housing opportunities must take into account not only VMT, but also the real-life, existing, affordable, and dominant housing choices that are made by today’s regional workforce.

SCAG's ongoing failure to do so will have negative implications for social equity – especially for vulnerable communities. The lack of affordable and available housing in the Southern California region has played a role in exacerbating a number of serious problems such as homelessness, the disappearing middle class and the increasing outward migration from our region.

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Lastly, we have seen continuing increases in the costs of entitlement and construction. New and increasing fees and exactions continue to place a disproportionately large fiscal burden on homebuilding activities. Growing mandates for project developers and homebuilders to provide rental or ownership subsidies for the less advantaged, and/or homeless housing funding, will not achieve promised levels of housing production unless such mandates are accompanied by a suite of policies that will expedite entitlement approvals, reduce construction costs, and reduce other fees and exactions. Achieving the level of homebuilding activity necessary to address the current housing crisis will require the circumspect review of and substantial relief from the fiscal and regulatory cost burdens that impede the production of new housing.

In short, unless and until SCAG realizes that our region is mired in a worsening crisis concerning both the supply and affordability of new housing opportunities, SCAG will continue to pursue and implement unwise regional planning policies at the insistence of CARB. A substantial course correction is needed; and it should begin now. SCAG needs to take the lead in creating and pursuing such a course correction. If it were to fail to do so, our region will continue to be directed indefinitely toward a bleaker future and unnecessary, worsening crises in terms of both housing supply shortages and housing unaffordability.

In light of these concerns, we must note here and express our very strong disappointment concerning the SCAG Regional Council's decision to ignore and reject entirely our September 2019 comments concerning the then-proposed sixth-cycle RHNA allocation for the SCAG region. We set forth in those comments the need for SCAG to expand the areas over which new housing can and should be built to include more vacant land (for suburban, annexed edge, greenfield and new town development). Notably, as we stated in our September comments, we were not opposed to the overall large size of the proposed sixth-cycle RHNA, we were instead concerned about the allocations and ultimately the indicated locations of more than 1.34 million new housing units envisioned within the SCAG region.

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Specifically, our RNHA concern was and remains about where new housing units can best and most affordably be located and distributed amongst the nearly 200 local jurisdictions within the SCAG region. Housing has a higher likelihood of actually being built if the obligations to provide sufficient building sites for new housing are spread out in a more realistic, balanced and achievable manner. Because of this, we continue to urge SCAG to endeavor to allocate relatively more housing units toward the local jurisdictions that have a relatively meaningful supply of vacant land available.

Unfortunately, after we lodged our September 2019 comments concerning the RHNA allocation, SCAG chose to redirect the sixth-cycle RHNA allocation in the opposite direction from that which we advocated. Specifically, SCAG has since voted to squeeze even more of the

envisioned homesite allocations into the already urbanized, densely populated, and – importantly – least affordable relatively coastal communities. SCAG should not finalize the currently pending RHNA allocation without improvement; and SCAG most certainly should not hold the course that it is currently on for the entire sixth-cycle RHNA process (which is prescribed to last eight years).

Similarly, SCAG should be aiming now to adopt a 2020 RTP/SCS that reflects much more realistic assumptions about (i) where within the SCAG region there can be constructed nearly 1.5 million new housing units in the decade of the 2020's, and especially (ii) what will be the affordability of those units. Obviously, a substantial amount – but not all – of the needed additional housing stock can and should be provided as urban infill and through more urban densification. On the other hand, a very substantial portion of the needed additional housing stock will need to be instead in the form of so-called “new towns” and “edge” or “greenfield” development. **In short, a meaningful and significant portion of new housing units will need to be planned and built where there is now vacant land. Doing so will undoubtedly conflict with both (i) CARB's ideal of significantly reducing per capita VMT in the region to unrealistically low levels, and (ii) the Connect SoCal plan as it is now proposed.**

This is not to say that SCAG's staff and CARB should abandon their goal of planning for a sustainable region in which per capita *GHG-emissions reductions* can be realized. Moderate growth (i.e., relatively tempered growth) in per capita VMT is consistent with achieving the kinds of GHG-emissions reduction goals that climate-change scientists argue must be pursued – provided our society makes meaningful, steady improvements in our fleets and fuels over time. Steady improvements in both the efficiency of our transportation fleet and/or fuel options seem increasingly likely to unfold in the years ahead. Importantly, foreseeable improvements in our transportation fleet and fuel options will decrease the GHG-emissions reduction benefit that can be realized through any given decrease in per capita VMT – so much so that if we were to pursue enough of the former (fleet and/or fuel changes) and other technological advances, we would need none of the latter (per capita VMT reductions) to meet our GHG reduction goals.¹

B. The Draft Connect SoCal is Fundamentally Contrary to Our Group's Longstanding Principles and Goals.

¹ See K. Leotta & C. Burbank, *One Percent [Annual] VMT Growth or Less to Meet Greenhouse Gas Emissions Reduction Goals* (2009). Their study concludes that ambitious 2050 GHG emissions reduction goals can be achieved consistent with a moderated one percent annual increase in aggregate VMT – specifically if *emissions per VMT* can be decreased on average by roughly 72 percent over the 45-year projection period (2005-2050). Importantly, the combination of California's standards requiring aggressive improvements in automobile emissions and the accelerating adoption of electric vehicles, natural gas, plug-in electric hybrid and even hydrogen vehicles suggests that California is well on its way to achieving greatly reduced GHG emissions per vehicle mile traveled. This foreseeable achievement will also predictably lessen over time the marginal benefit that will flow from any marginal reduction or constriction of per capita VMT.

In light of the above-stated principles and prior consistent urgings, we now encourage SCAG's staff to re-address and substantially correct the draft Connect SoCal and the related draft PEIR. Rather than adopt these drafts as they are, SCAG should refashion and adopt a 2020-2045 RTP/SCS that will allow for a realistic degree of ongoing per capita VMT growth in and about the SCAG region. To be sure, per capita VMT growth should be *tempered* and *moderated* as much as possible. It should even potentially be decreased slightly, but only if such a result can be achieved consistent with the ability to reasonably employ, mobilize and house our region's growing and partially-homeless population.

To do so, SCAG needs to study and promote more new housing opportunities within a more relaxed span of potential locations. Such a direction is desperately needed if our SCAG region is to have any realistic hope of fairly and affordably housing its population. Local governments, in turn, must explore, condition and approve many different kinds of new housing opportunities in the most relatively sensible locations. The new kinds of housing opportunities that should be pursued and their specific siting must take into account and include the following: (1) new urban development and redevelopment opportunities at varying densities, (2) the ongoing growth and expansion of budding and still-growing communities, and (3) well-planned, entirely new communities.

To its detriment, the draft Connect SoCal does not appreciably reflect either the ongoing expansion of budding and growing communities, or the future entitlement of any new, well-planned communities. Instead, the draft Connect SoCal largely comports with the same policy direction that underpins its recent RHNA allocation decision.

Even worse, the draft Connect SoCal literally boasts of its policy aim of curtailing any and all such organic development. For example, on page 36 of the draft Connect SoCal, the text reads:

The conservation of natural area and farmlands on the edges of urban and suburban development is an integral aspect of Connect SoCal as it incentivizes infill development and the concentration of different land uses. This makes it easier to travel shorter distances which reduces greenhouse gas emissions. Many counties and cities in Southern California have excelled in their work to protect these vulnerable lands, but few plans or policies have been enacted to preserve habitat and farmlands on a regional scale. With regional population increases, conservation decisions made now can safeguard the endurance of these lands, protecting threatened wildlife and the local agricultural economy, and reducing carbon emissions, while also contributing to a high quality of life for future generations.

Similarly, the draft Connect SoCal describes all land on the edge of existing development to be regrettably "vulnerable" to development, expressly stating on page 32 of the draft Connect SoCal the following (emphasis added):

A range of local conservation plans, habitat conservation agencies and state/federal park designated areas provide protection for a significant amount of natural and farmland in

the SCAG region. However, most of these protected lands are in remote desert areas far from incorporated areas Therefore, *a substantial amount of land on the urban and suburban fringe is vulnerable to development*.

Rather than lament the fact that peripheral, vacant land is “vulnerable to” development, SCAG should instead be encouraging local jurisdictions to ascertain which such land “on the urban and suburban fringe” is the most suitable for development. In particular, SCAG should be encouraging the counties’ supervisors, who respectively govern the use of nearly all of the vacant land suitable for smart development, to identify and make available for housing products the “land on the urban and suburban fringe” which is most suitable for smart development.

Importantly, the draft Connect SoCal also boasts of the fact that new single family residential construction has been falling as a *percentage* of total new residential construction in the SCAG region, while multi-family housing (apartments and attached condominiums) have conversely been gaining in terms of its relative share of all new residential construction. For example, concerning the typology or mix of new housing units in the SCAG region between 2006 and 2016, page 20 of the draft Connect SoCal reads in part:

In meeting ... new residents’ demand for housing, the [SCAG] region also added about 400,000 units from 2006 to 2016 – 54 percent of which were multi-family units. Comparing to current conditions in 2016, 39 percent of the region’s housing units are multi-family and 61 percent are single-family units. Riverside County and Los Angeles County again took the highest shares, ... and Los Angeles County added an additional 164,000 housing units - with 90 percent representing multi-family developments, largely occurring in denser areas that are well served by transit.

While the draft Connect SoCal thus boasts that new multi-family housing units have been gaining in the *relative share* of new housing units, the change in relative share has come at the expense of total number of all new housing units (as is shown by Figure 2.4 on page 21 of the draft Connect SoCal). In fact, the data shows that overall new housing production has fallen along with – and most likely primarily due to – a corresponding decrease in single family residential construction.

It must be understood and appreciated as well that the new, relatively-increasingly multi-family housing production about which the draft Connect SoCal boasts (such as Los Angeles County’s additions of mainly “multi-family developments, largely occurring in denser areas that are well served by transit”) tends to be the most expensive type of new residential housing. Indeed, highly urban, dense, new housing is relatively and increasingly unaffordable to most renters – let alone to most would-be homebuyers. To achieve some levels of affordability on this type of housing product often requires government funding, in part or in whole, through various “affordable housing” programs. While we have consistently supported the more reasonable types and levels of these programs and recognize their benefit, we have great concern that these programs are becoming increasingly necessary in order to make this type of housing project affordable. It must be the goal of the RTP/SCS, RHNA and any good housing plan to assure that it accommodates “market rate” affordable housing, which is housing that is built and funded by

the private sector and sold or rented at market rates affordable to Southern Californians. Given the size and scope of the region's housing shortage and the tremendous affordability gap, we must maintain and increase strong private sector participation in new housing production because there is simply not enough government funding to solve this massive problem through the public sector alone. Therefore, we must be wary of plans that are heavily dependent on government subsidies to achieve housing affordability.

These facts have led our group to conclude that SCAG needs to reconsider and reverse its policy of championing almost exclusively dense infill redevelopment to the exclusion of all new town, urban edge and greenfield development. Only by reversing such an institutional policy can SCAG play its proper role in solving the housing supply and related housing affordability crises that currently grip the SCAG region and California as a whole.

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C. The Draft PEIR is Inadequate as a CEQA Disclosure Document.

As we discussed above, there is no evidence that the policy prescriptions reflected in the draft Connect SoCal will meet either the realistically regarded housing and transportation needs of the region, or provide for sustainability as required by SB 375. We believe that the draft Connect SoCal, if it were to be adopted as proposed, would instead negatively impact many elements of the human environment throughout the SCAG region, such as by greatly worsening vehicular congestion and homelessness, certainly displacing the poor, and the like. The draft PEIR purports to discuss the environmental impacts of the draft Connect SoCal. We believe that the draft PEIR fails to do so adequately.

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The draft Connect SoCal would implement a variety of policy choices aimed at fostering more high density infill housing. The higher density housing typologies that the draft Connect SoCal aims to foster are frequently five to seven times more expensive to build than are one and two-story detached or attached structures in less dense and relatively peripheral communities. The latter communities more typically provide home rental and ownership options at prices that are relatively attainable to the region's workforce.

Similarly, the draft Connect SoCal would reject a more diverse range of transportation options (including voter-approved and funded transportation improvements) of types that would increase transportation efficiencies in the region. Instead, the draft Connect SoCal would singularly favor bus, electric scooter, and other transit modes which are either increasingly ineffective (e.g., fixed route bus transit) or infeasible in relation to the needs of many commuters within the region's workforce (e.g., electric scooter programs, which are no help to our region's construction workers, who must carry or move tools and material to jobsites).

As a disclosure document, the draft PEIR fails to identify, analyze, impose legally-mandated, feasible mitigation measures for the reasonably foreseeable consequence of the draft Connect SoCal's proposed implementation. It fails to disclose the scale and significance of unavoidable adverse impacts for impacts that cannot be mitigated through measures enforced by SCAG. The impacts which were unlawfully omitted from the analysis provided in the draft PEIR include:

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- The reasonably foreseeable demolition and displacement of existing uses in and near transit stations and corridors. Such demolition and displacement will cause significant localized noise and air emission impacts, significant new burdens on local infrastructure and public service, the significant or potentially significant displacement of local businesses (which will result in the absence of such businesses or greater travel distances to such local business services), and the significant or potentially significant displacement of existing residents who will most likely be forced to relocate to less costly residential locations farther away from their present workplaces, all with attendant increases in travel-related impacts such as the explosive growth of “supercommuters” with higher commute-related air emissions, health and safety hazards, traffic congestion, and noise impacts.
- The reasonably foreseeable ongoing increase in “supercommuters” – even for populations that are not physically displaced by urban, transit-oriented development. As was examined in a recent Chapman University study completed by economist John Husing, even households headed by union construction workers cannot afford a median priced home in any county that touches the ocean in Southern California.² The disconnect between the draft Connect SoCal’s high-cost, high-density, disproportionately infill housing vision assures that the pattern that Dr. Husing identified will continue and get worse.
- The draft PEIR fails to discuss the fact that there are and will remain no practical, fixed-route public transit options to serve the distantly-residing construction workers and other middle class households who need their mobility. The draft Connect SoCal’s prioritization of mass transit over roadway expansions would therefore worsen the growing tendency toward gridlocked conditions. Consequently, work force commutes will lengthen – thereby increasing air emissions and causing other adverse impacts. These are not speculative impacts: both the housing shortage and affordability crises and the performance of the SCAG region’s transportation network worsened after the first two rounds of RTP/SCS plans were adopted; and the draft Connect SoCal, especially when viewed in light of SCAG’s recent actions involving the sixth-cycle RHNA allocation, would effectively double down on the unsuccessful over-dependency and over-emphasis on fixed-route, public transit. SCAG’s own transit studies demonstrate that housing density does not result in increased transit ridership because, in the real world, jobs are widely distributed throughout the region and workers (including low income hourly wage workers) often can practically commute only by using cars.³

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² John E. Husing, “Impact of California’s Housing Prices on Construction Workers,” March 3, 2019, available at: <https://www.newgeography.com/content/006254-impact-californias-housing-prices-construction-workers>

³ See, e.g., UCLA “Falling Transit Ridership: California and Southern California,” available at: <https://www.its.ucla.edu/2018/01/31/new-report-its-scholars-on-the-cause-of-californias-falling-transit-ridership/>

- There is clearly not enough public funding to bridge the massive gap between (i) the costs of constructing high-density, infill-only housing, and (ii) the lower cost of the housing that is actually needed by affordable to middle class households in the region. Relatively affordable housing is widely available outside the SCAG region. Because of California’s stringent building and efficiency codes, and its commitments to renewable energy and electric and other alternative energy vehicles and modes of transit, California’s future residents are projected to have the lowest per capita GHG footprint in the nation. By failing to solve the housing shortage and affordability crises, our society will worsens GHG emissions globally by forcing an increasing number of Californians to relocate to other regions, states or nations where housing is more affordable. Presently, the top three out-migration destinations for departing Californians are Texas, Nevada and Arizona; and they all have far higher per capita GHG emissions. The draft PEIR discusses and analyses no impacts related to such out-migration caused by the draft Connect SoCal’s foreseeable worsening of the housing supply and affordability crises.

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The Program EIR also fails to identify all feasible mitigation measures for the scores of significant unavoidable adverse impacts it identifies. Even though SCAG cannot itself implement or enforce some potential mitigation measures, CEQA requires that the final EIR must identify feasible measures to avoid or reduce impacts and note, where applicable, that such measures can and should be implemented by other agencies. Measures such as reducing housing costs through accelerated and by-right entitlement approvals, reducing fees and other regulatory costs, and enhancing local government revenues with tax-increment financing to pay for the community infrastructure and public service improvements needed to accommodate new housing, are omitted from the PEIR. The omission must be corrected.

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The draft PEIR does and analyze the foreseeable failure of VMT reduction policies, taking into account the region’s plummeting transit ridership and the evidence that any growing population which enjoys strong employment typically has increased or barely reduced per capita VMT; but has never significantly reduced it. The draft PEIR fails to identify and alternate GHG reduction strategies (other than VMT reduction) which could more feasibly and beneficially reduce regional GHG. Moreover, even if CARB continues to dictate that SCAG must envision and plan for large per capita VMT reductions, the draft PEIR should have analyzed and discussed the broader environmental impacts and potential mitigation of such a policy.

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In addition, the draft PEIR also omits any discussion of the reasonably foreseeable cumulative impacts that will flow from the 2019 determination that SCAG must allocate more than 1.34 new housing units through the RHNA process for the sixth cycle of RHNA, and that SCAG has already decided to disproportionately allocate that large number of housing units to the more expensive, relatively near-coastal areas and communities. Although the localities’ respective general plans have not yet been amended to make sites available for these housing unit allocations, CEQA does not allow for the deferral of consideration of cumulative impacts analyses for reasonably foreseeable new projects and activities simply because they have not yet been fully or finally approved. The draft PEIR must be reworked to include discussion of the consequences of tripling the availability of housing unit sites and SCAG’s decision to largely

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focus this large quantity of new potential housing units in the already dense, expensive near-coastal communities.

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Finally, because of all of the concerns which are stated above in this comment letter, the draft Connect SoCal policy document and the related draft PEIR should each be revised to include an alternative – one that will actually result in more ameliorative housing and transportation solutions for the region.

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The draft PEIR’s fails to adequately identify, analyze and/or discuss the mitigation of environmental impacts. It fails to identify the reasonably foreseeable consequences of the cumulative housing increase prescribed by the RHNA process. Both it and the draft Connect SoCal fail to identify and analyze an alternative that would actually result in housing and transportation solutions needed by this region. These are all flaws that can be remedied only if SCAG were to recirculate a revised draft PEIR which corrects its deficiencies. This is all the more reason for SCAG to seek and obtain a one-year extension in additional time to revise and ultimately adopt a better Connect SoCal.

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D. Conclusion.

To summarize our conclusions:

- We believe that the draft Connect SoCal compounds the policy mistakes that were latent in SCAG’s prior two RTP/SCSs but are now recognizable in light of the housing crisis; and it is, therefore, not a sound plan for the region. Whereas a major policy course correction is needed to best address the region’s housing supply dearth and housing affordability crisis, the draft Connect SoCal would combine with SCAG presently-proceeding RHNA allocation to worsen these crises.
- SCAG should therefore request a one-year extension of time during which to entirely revisit the draft Connect SoCal, and substantively re-make it with a view toward better balancing the environmental and transportation goals of the RTP/SCS with approaches that will address more urgently and deliberately the region’s housing supply and affordability crises.
- The draft PEIR is legally infirm as it now reads, and should be redone when analyzing a substantially new, more realistic and more achievable regional plan.
- If we are correct in assuming that a resulting, newly-drafted, more realistic and more achievable regional plan will conflict with CARB’s overly-ambitious per capita VMT reduction, then we urge SCAG to prepare and adopt both a SCS and a complementary APS for presentation to CARB.

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We have always recognized the daunting regulatory and administrative challenges that are inherent in SB 375 and the federal requirements with which SCAG must comply. We

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recognize that it will be a major challenge for SCAG’s staff to re-evaluate all of the VMT implications of envisioning a more circumspect regional land use plan than those which underpinned SCAG’s last two RTP/SCSs and now underpin the draft Connect SoCal and its draft PEIR. It is especially challenging to do so in a way that better accommodates the large housing needs assessment that must be allocated regionally via the sixth-cycle RHNA process. We remain, however, confident in SCAG and both its Regional Council and professional staff to lead the way on smart, innovative approaches for solving our region’s most daunting problems. Likewise, given our longstanding involvement with the SB 375 process and the depth of our concerns, we look forward to continuing to work with SCAG and participating in ongoing discussions about Connect SoCal. With such collaboration in mind, we respectfully ask for your meaningful consideration of these comments.

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Sincerely,



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 Chief Executive Officer
 Building Industry Association of Southern California (BIASC)




Ray Baca
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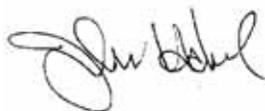




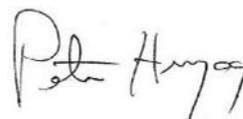
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January 24, 2020

ORG-14

VIA EMAIL

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RE: DRAFT PEIR COMMENTS FOR 2020 RTP/SCS (SCH # 20199011061)

Dear Mr. Ok:

Service Employees International Union – United Service Workers West, on behalf of its members (collectively "USWW" or "Commentor"), appreciates the opportunity to comment¹ on the referenced draft Program Environmental Impact Report ("PEIR")² for the draft 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy plan ("Plan" or "2020 RTP/SCS"),³ prepared by the Southern California Association of Governments ("SCAG") pursuant to the California Environmental Quality Act, Pub. Res. Code § 21000 *et seq.* ("CEQA").⁴

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In short, USWW writes with regard to the Plan's air quality analysis and growth forecasts. Concerning is the absence of any modeling under newer EMFAC2017 models that may disclose additional air quality impacts. It is unclear whether the Plan's General Conformity Determination accounts for additional, updated projects that have already been credited with emission budgets under applicable air quality plans. Finally, the Plan's growth assumptions seem untethered to the SCAG region's historic growth record. USWW respectfully requests clarification on these issues in a recirculated or final PEIR.

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I. STANDING OF COMMENTOR

USWW and its sister local unions have many thousands of members who reside and work in the SCAG region which this Plan covers. They will be directly affected by impacts under the Plan, such as traffic, air quality, GHG and noise.

This comment letter is made to exhaust remedies under administrative law principles and Pub. Res. Code § 21177 concerning the Plan, and incorporates by this reference all written and oral comments, in their entirety, submitted on the Plan or PEIR by any commenting party or agency. It is well-established that any party, as Commentor here, who participates in the administrative process can assert all factual and legal issues raised by anyone.⁵

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¹ Please note that pages cited herein are either to the page's stated pagination (referenced herein as "p. ##") or the page's location in the referenced PDF document (referenced herein as "PDF p. ##").

² Inclusive of all appendices (referenced herein as "APP-##") provided on SCAG's PEIR webpage. See <https://connectsocial.org/Pages/Draft-2020-PEIR.aspx>.

³ Inclusive of all technical reports (referenced herein as "TR-[name]") provided on SCAG's Plan webpage. See <https://connectsocial.org/Pages/Connect-SoCal-Draft-Plan.aspx>.

⁴ Inclusive of State CEQA Guidelines, 14 Cal. Code Regs. § 1500 *et seq.* ("CEQA Guidelines").

⁵ See *Citizens for Open Government v. City of Lodi* (2006) 144 Cal.App.4th 865, 875.

II. SPECIFIC COMMENTS REGARDING DRAFT PLAN/PEIR

1. Use of EMFAC2014 Rather Than EMFAC2017 Is Concerning

It appears that the Plan’s air quality, health risk assessment, and GHG analysis utilizes the older EMFAC2014 modeling per the two-year grace period provided by the U.S. EPA for regional conformity analysis.⁶ Yet, the newer EMFAC2017 modeling may show more significant air quality emissions that should be translated into human health impacts in order to fulfill CEQA’s informed decision-making purposes. *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502. So too, it is unclear whether the grace period for using the old EMFAC2014 model applies to the entire 2020 RTP/SCS PEIR analysis or is limited strictly to the federally-required General Conformity Determination (“GCD”).

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Commentor requests clarification regarding the utility of the 2020 RTP/SCS PEIR absent an EMFAC2017 modeling. For example, would future addendums to the PEIR include brand new EMFAC2017 modeling? Will future projects after the expiration of the grace period have to do *both* an EMFAC2014 modeling (to show consistency with 2020 RTP/SCS assumptions) and EMFAC2017 modeling to disclose emissions otherwise undisclosed in this PEIR? What specific mitigation measures are incorporated now to ensure future impacts disclosed pursuant to EMFAC2017 modeling are addressed?

2. Available General Conformity Determination Emission Budgets Are Not Updated

The Plan claims that air emissions associated with the 2020 RTP/SCS are within the air quality emission Budgets under applicable State Implementation Plans (“SIP(s)”) and local Air Quality Management Plans (“AQMP(s)”), and thus the Plan satisfies its federally-mandated General Conformity Determination.⁷ First, as noted above, this analysis relies on EMFAC2014 modeling under a soon-lapsing grace provision,⁸ which may very well leave impacts unanalyzed and unmitigated.

Second, the Plan compares Plan emissions against applicable emission Budgets,⁹ often finding slim to no emission Budgets remain after deducting the Plan’s emissions. It is unclear, however, whether this analysis accounts for recent projects not already included in the applicable AQMP that rely on local General Conformity Budgets. For example, a warehouse logistics project at San Bernardino International Airport just approved in December 2019 exceeded *de minimis* thresholds and required a GCD under the National Environmental Protection Act.¹⁰ There, the project relied on set-aside General Conformity Budgets tracked by South Coast Air Quality Management District (“SCAQMD”).¹¹ As indicated by SCAQMD, SCAQMD tracks projects requiring GCDs that utilize General Conformity Budgets and the Budgets “are in high demand and have a limited availability.”¹² Here, it is unclear whether the Plan’s GCD accounts for the recent projects that have already secured these highly sought after General Conformity Budgets.

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⁶ See Plan, TR-Transportation Conformity Analysis, p. 28; PEIR, pp. 3.3-19, 3.3-50, 3.3-76, 3.8-60, 3.8-74.

⁷ See PEIR, p. 3.3-52, 3.3-69; Plan, TR-Transportation Conformity Analysis, pp. 2-4, 108.

⁸ See Plan, TR-Transportation Conformity Analysis, pp. 25, 287.

⁹ *Ibid.*, pp. 28-41.

¹⁰ See Eastgate GCD, PDF p. 10, <http://bit.ly/3aEJsHt>.

¹¹ *Ibid.*, PDF p. 31-34, 95-96.

¹² *Ibid.*

Commentor therefore requests clarification whether the Plan and PEIR account for available General Conformity Budgets. For example, do the emission Budgets in the Plan include set-aside General Conformity Budgets? Has SCAG consulted with SCAQMD and other relevant agencies about the updated status of available General Conformity Budgets that are highly sought after by project-proponents? Does SCAG, much less the public, know how much of the Budgets have already been allocated, and how much remains? All this should be provided in a recirculated or Final PEIR.

3. Growth Assumptions May Lack Substantial Evidence

The 2020 RTP/SCS anticipates a significant increase in airplane passenger volume for the SCAG region with passenger enplanements increasing from 110.17 million annual passengers ("MAP") in 2017 to 197.14 MAP in 2045 (i.e., an increase of 86.97 MAP), which amounts to a Compound Annual Growth Rate ("CAGR") of approximately 2.1 percent during those 28 years.¹³ This level of growth is out of line with the area's historic track record and more akin to the trajectory anticipated under old SCAG plans that have proven unreliable. Table 1 below shows the anticipated growth in passenger enplanement SCAG-wide under this Plan and prior SCAG plans over their respective planning periods, and historic growth from 1997 to 2017. As the below table indicates, past plans have consistently overestimated anticipated growth as compared to actual growth (i.e., 1.55 percent actual growth from 1997-2017).

TABLE 1: PRIOR ANTICIPATED GROWTH UNDER SCAG PLANS

RTP	Base		Forecast		Trend	
	Year	MAP	Year	MAP	Period	CAGR
2001	1997	81	2025	167	28	2.62%
2004	2002	77.8	2030	170	28	2.83%
2008	2007	89.53	2035	165.3	28	2.21%
2012	2009	79.1	2035	145.9	26	2.38%
2016	2013	88	2040	136.2	27	1.63%
2020	2017	110.17	2045	197.14	28	2.10%
Historic	1997	81	2017	110.17	20	1.55%

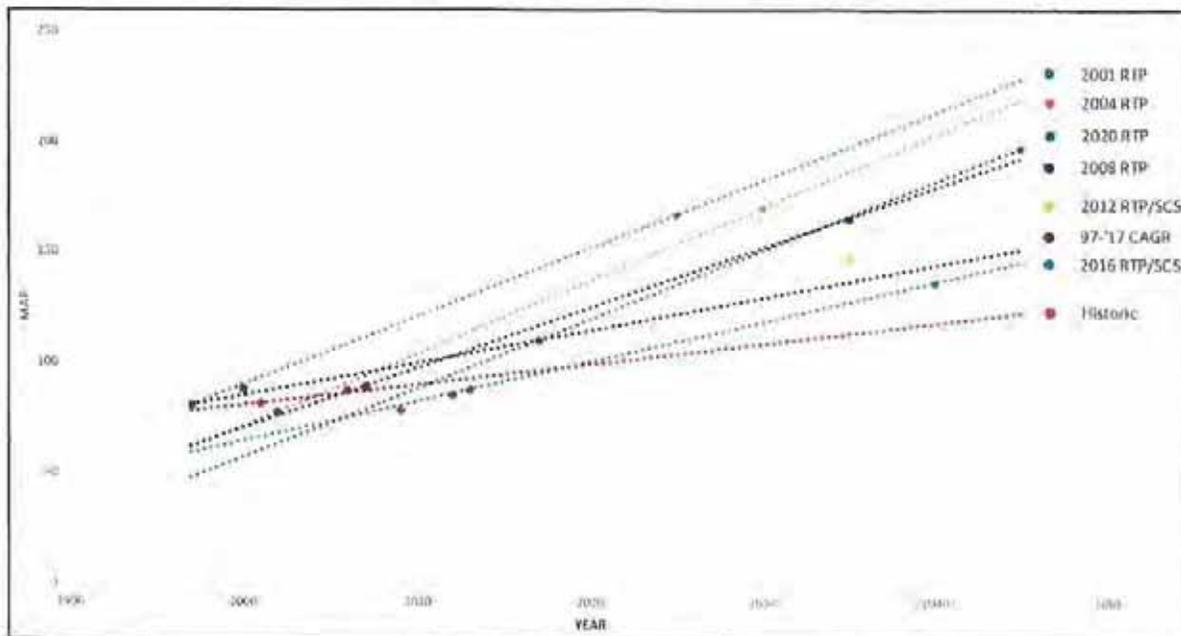
The linear trajectory of the above growth projections are reflected in Figure 1 on the following page, which shows the 2045 anticipated growth under the proposed 2020 RTP/SCS (green) is near levels anticipated under the older 2001 RTP (blue), 2004 RTP (orange), and 2008 RTP (purple); and much higher than anticipated growth under the newer 2012 RTP/SCS (yellow) and 2016 RTP/SCS (light blue). As compared to historic levels reported by SCAG between 1997 through 2017 (red),¹⁴ those older RTP forecasts overestimated passenger growth significantly. So too, those older plans overestimated growth

¹³ See Plan, p. 81; Plan, TR-Aviation & Airport Ground Access, p. 33; PEIR, APP-3.13, PDF p. 37.

¹⁴ According to SCAG-reported figures, the SCAG-wide region had 81 MAP in 1997, 88.5-88.7 MAP in 2000, 81.9 MAP in 2001, 77.8-77.9 MAP in 2002, 87.9 MAP in 2006, 89.4-89.53 MAP in 2007, 79-79.1 MAP in 2009, 85.8 MAP in 2012, 88 MAP in 2013, and 110.17 MAP in 2017. See e.g., 2020 RTP/SCS, TR-Aviation and Airport Ground Access, p. 26; 2016 RTP/SCS, Aviation Airport Ground Access Appendix, p. 1, <http://bit.ly/2tEwfxP>; 2012 RTP/SCS, PDF p. 106, <http://bit.ly/2RrJvip>; 2008 RTP, Aviation and Airport Ground Access Report, PDF p. 30, <http://bit.ly/2GllrXT>; 2004 RTP, PDF p. 144, <http://bit.ly/36rk3NY>; 2001 RTP, PDF p. 113, <http://bit.ly/3aK11aD>.

as compared to the CAGR trajectory based on the actual levels reached from 1997 and 2017 (black).¹⁵

FIGURE 1: PASSENGER FORECASTS COMPARED TO HISTORIC LEVELS



As indicated in the above figure, the trajectory of the region’s actual track record (i.e., black and red) is relatively low and much more in keeping with the trajectory under SCAG’s 2012 and 2016 RTP/SCS growth forecasts, which collectively anticipate passenger volume in 2045 in the range of 145-170 MAP. It would seem that, after 16 years of consistently lowering forecasted passenger volumes in each successive RTP, SCAG is now changing course under an apparent pro-growth plan that may not be supported by substantial evidence.

The 2020 RTP/SCS derives its 2.10 percent CAGR growth rate based on factors described only generically and is facially out of line with the region’s long-term track record that has seen only a 1.55 percent CAGR in passenger enplanement from 1997-2017. This discrepancy is due, in part, to the Plan’s emphasis on recent growth rates from narrow time periods (e.g., 2012-2017 returning to normal levels after sharp declines in the wake of the 9/11 attacks and the Great Recession), based on largely forecasted numbers that have yet to be proven accurate (e.g., 2018-2045), and from jurisdictions that are dissimilar from the SCAG region (e.g., emerging countries like Africa and Asia/Pacific).¹⁶ As a long-term planning document, the RTP/SCS must give adequate weight to the SCAG-region’s actual performance over the long-term, such as SCAG’s 1.55 percent CAGR from 1997-2017 and the 1.3 percent CAGR from 2000-2017 (i.e., from 88.5 MAP in 2000 to 110.1 MAP in 2017).¹⁷ Furthermore, given that the State and region have

¹⁵ This 1997-2017 CAGR trajectory is higher than the red trajectory because it only includes the historic levels at 1997 and 2017, excludes lower MAP levels in interim years largely attributed to the 9/11 attacks and the Great Recession. See Plan, TR-Aviation & Airport Ground Access, pp. 26, 29.

¹⁶ See Plan, TR-Aviation & Airport Ground Access, pp. 22, 28 (TbIs. 6 & 9).

¹⁷ *Ibid.*, pp. 27, 29.

experienced ten-years of continued economic growth, a softening of the economy is foreseeable, which will undoubtedly affect passenger travel. This seems to be entirely overlooked by the Plan and PEIR. As such, Commentor requests clarification regarding the adequacy of the Plan's growth projections. For example, what modeling and source data was used to derive this 2.10 CAGR? Why does the Plan/PEIR fail to specify exactly what levels were in prior years? How effective is this model compared to the region's track record?¹⁸ Why is there no consideration for the cyclical nature of the economy?

Moreover, each SCAG airport is assumed to accommodate this growth at different volumes and at different CAGRs, as reflected in Table 2 below. So too, the Plan anticipates some airports will have significant increases or decreases to their respective regional share of passenger volume.

TABLE 2

Airport	2017		2045		MAP CAGR (2017-2045)
	MAP	% of Total	MAP	% of Total	
BUR	4.74	4.3%	9.00	4.6%	2.3%
IPL	0.012	0.0%	0.30	0.2%	12.2%
LAX	84.56	76.8%	127.00	64.4%	1.5%
LGB	3.783	3.4%	5.50	2.8%	1.3%
ONT	4.552	4.1%	33.00	16.7%	7.3%
OXR	0.00	0.0%	0.30	0.2%	n/a
PMD	0.00	0.0%	1.82	0.9%	n/a
PSP	2.10	1.9%	5.00	2.5%	3.1%
RIV	0.00	0.0%	0.61	0.3%	n/a
SBD	0.00	0.0%	1.81	0.9%	n/a
SNA	10.423	9.5%	12.50	6.3%	0.7%
VCV	0.00	0.0%	0.30	0.2%	n/a
TOTAL	110.17	100%	197.14	100%	2.1%
<i>Notes:</i>					
n/a CAGR not calculated given SCAG provides no base year values.					

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In addition to concerns about overstated growth projections, Commentor therefore requests clarification about the timing of these purported MAP increases. For example, how does the PEIR account for and mitigate more severe local impacts that could be caused by accelerated increase in MAP at a particular airport within the first five or ten years of the planning period, instead of evenly spread out over the Plan's full 25+ year time period? Alternatively, in this circumstance how does the PEIR account for disruptions in the Plan's modeled regional share of passenger volume for each airport?

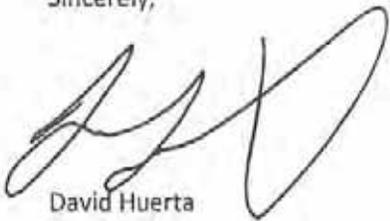
¹⁸ For example, if the current model used in the Plan was used under prior RTPs, how accurate would the model's forecasts be compared to historic passenger volumes.

III. CONCLUSION

USWW appreciates the opportunity to provide these comments to SCAG and looks forward to a meaningful response to these fundamental questions. Commentor reserves the right to supplement these comments at future hearings and proceedings for this Plan. Finally, to the extent not already on the notice list, Commentor requests all notices of CEQA actions, Plan CEQA determinations, or public hearings to be held on the Plan/PEIR under state or local law requiring local agencies to mail such notices to any person who has filed a written request for them.¹⁹ Please send notice by electronic and regular mail to: casey.coward@seiu-usww.org, 1650 Harbor Bay Parkway, Suite 200, Alameda, CA 94502.

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Sincerely,



David Huerta
President
SEIU United Service Workers West

¹⁹ See Pub. Res. Code §§ 21080.4, 21083.9, 21092, 21092.2, 21108, 21167(f).



ORG-15

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January 22, 2020

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To whom it may concern,

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) (collectively called Connect SoCal). In 2012, with release of the prior RTP/SCS, Friends of Harbors, Beaches and Parks coordinated a cross-county regional conservation coalition focused on the inclusion of natural lands mitigation and policies within that SCAG plan. The Bolsa Chica Land Trust is now a part of this growing coalition in 2020.

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The Bolsa Chica Land Trust is a 5,000 member non-profit organization established in 1992. Our mission is the acquisition, preservation and restoration of all of Bolsa Chica and the education of the public to its natural wonders and cultural significance. The Bolsa Chica Ecological Reserve, located on our Orange County coastline, is owned and managed by the State. Bolsa Chica is an international birding location visited by approximately 80,000 visitors each year. Over the course of our 27 year history, BCLT has been the catalyst for the protection of hundreds of acres of coastal wetlands and 118 acres of coastal uplands at Bolsa Chica from development.

ENDORSEMENTS

Amigos de Bolsa Chica
Algalita Marine Research
Foundation
Anza Borrego Foundation
Ballona Wetlands Land
Trust
City of Huntington Beach
City of Seal Beach
Friends of Harbors,
Beaches and Parks
Huntington Beach
Wetlands Conservancy
Huntington Beach Tomorrow
Orange Coast League of
Women Voters
Orange County
Coastkeeper
Peninsula Open Space Trust
Sea and Sage Audubon
Sierra Club
Angeles Chapter
Surfrider Foundation

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

We are pleased to see conservation of our natural lands as one of the 10 main policies of Connect SoCal. Land preservation not only reduces greenhouse gas (GHG) emissions, but also sequesters carbon. Any investment in habitat restoration improves this sequestration potential as well. SCAG has demonstrated that Metropolitan Planning Organizations can play a vital, thoughtful, and science-based role in mitigating impacts to our natural environment from transportation, infrastructure, and other development projects. By incorporating natural and farmlands protection strategies into your policy document, we believe the many benefits of this broad-based conservation approach will be realized sooner than expected. We thank you for your leadership.



BCLT agrees that future development should be focused in existing city-centers and near transit. When developments are built in the city center, it relieves pressure from the fringe. However, the Plan fails to outline exactly how (or with what conservation mechanism) these fringe lands (or any lands) will actually be protected. Just because the pressure is relieved by focusing development elsewhere, doesn't mean the land then automatically becomes protected. Numerous organizations, ours included, focus our work on protecting important habitat lands. A lot of time, energy, money, strategy, and political will are combined to create a successful conservation transaction that lead to permanently conserved lands. Further, just because local agencies may be contributing to the conservation arena, in no way should you discount the roles of the conservation non-profit community. In short, SCAG must identify the actual mechanism, process or plan on how the greenfields and agricultural lands will be protected.

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, protection of cultural and archeological sites, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water and natural resources.

The Plan outlines that the region anticipates an additional 3.8 million people by 2045 providing increased pressure to our existing parkland. Existing studies document that many communities in the Southern California region already do not have enough parkland as outlined by the Quimby Act (five acres per 1000 residents). As cities grow, more parks and more park access will be needed. What is the mechanism for this? Additionally, and more importantly, these city parks are fundamentally different than habitat-focused parks. Usually city and regional parks include high intensity activities, like turfed soccer and baseball fields. The types of land acquired as mitigation or through local conservation efforts typically focus on preservation of natural habitat and less intensive uses (birding, hiking, etc.). In fact, many of these mitigation lands have limited or managed public access. Providing "more" access to either high or low intensity parks and/or habitat lands may have significant consequences for the land manager. How additional access will be provided should be addressed, as well as how additional lands will actually be acquired and preserved.

Wildlife corridors are critical components to Southern California conservation efforts. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain environmental functions, be sustainable over the long term, and include plans for long term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land. Ensuring our open spaces are connected to one another is essential for species survival. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as fire, flood or landslide, and improve the resiliency in the face of climate change impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors *prior to commencing* impactful projects.

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Many non-profits like BCLT are working to ensure additional bays, estuaries, wetlands, bluffs, and beaches are preserved forever. Additionally, one way our coasts are connected to inland areas are through our rivers and streams. These riparian areas serve as recreational trail corridors, water recharge and infiltration locations,

and serve as places our wildlife use for watering sources. However, transportation and land use generated urban runoff are still problems. Our beaches and coastline are inundated with pollution. Litter, debris, and pollutants should be decreased prior to reaching the coast. Ensuring everyone has a positive experience on the sand and in the surf should be our goal, but we need to address Southern California's trash problem.

One key way to improve the environment is through restoration projects. These can be on land, in riparian areas, and even in the ocean. Restoration provides benefits by adding native plants, removing the non-native plants and their seedbank, as well as increasing carbon storage, and providing improved habitats for our wildlife. Our environment benefits from these improvements, as do our watersheds, our air, and our communities. Having improved habitats means that our water is cleaner, our soils won't erode as easily, it creates jobs for local residents, and our unique biodiversity is maintained. Further, the many endemic and threatened/endangered plants and animals benefit from these restoration projects as well. Thank you for including restoration as a key component in the natural lands and agricultural policy. We feel it is important to note that although restoration dollars are available through State measures, there is overwhelming competition for those dollars, particularly for Southern California where restoration projects are typically more expensive to implement. SCAG support of restoration will be an important element to achieving restored and functioning habitats.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I can be reached at (714) 846-1001. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to me at Kim@bclandtrust.org.

Sincerely,



Kim Kolpin
Executive Director

The Bolsa Chica Land Trust is a Non-Profit, 501(c)3 organization. All donations are tax deductible to the extent allowed by law. Our tax ID# 33-0516059.



January 22, 2020

Submitted through the Connect SoCal website:

<https://www.connectsoocal.org/Pages/Connect-SoCal-Comment-System.aspx>

Attn: Connect SoCal Team
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

RE: Comments on the 2020 Draft Connect SoCal

Dear Connect SoCal Team:

Friends of Harbors, Beaches and Parks (FHBP) has been engaged with the Southern California Association of Governments (SCAG) for many years—most recently through its ongoing Natural Lands Working Group. In 2012, we formed a coalition that promoted open space policies and regional advance mitigation programs (RAMPs) at the SCAG level. These policies were ultimately adopted by SCAG leadership in the 2012 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). This was done a second time with the 2016 RTP/SCS. We are pleased to gain a broader, more inclusive, and geographically diverse coalition for the 2020 Plan (Connect SoCal) and though we have substantive comments below, we are supportive of the 2020 Connect SoCal Natural and Farmlands policies.

While FHBP mainly focuses its work in Orange County, we have been able to relay our experiences with the successful RAMP under the Orange County Transportation Authority's (OCTA) Renewed Measure M to other county transportation agencies in California. Measure M2's Environmental Mitigation Program has permanently protected 1,300 acres and restored nearly 350 acres throughout Orange County. This innovative program enables 13 freeway projects to collectively mitigate impacts with large landscape-level mitigation, instead of small individual project-by-project mitigation efforts. It streamlines the environmental review and permitting process, allows projects to come in under budget, builds a positive working relationship with resource and permitting agencies, allows more thoughtful science-based conservation planning to occur, and is supported by many conservation and community organizations. This, and our involvement in the creation of the Natural Lands Policy in the 2012 Orange County SCS, drew our attention and focus to the SCAG RTP/SCS and opportunities for a more regional effort there. We are grateful to be involved in the process and to have developed an excellent working relationship with SCAG leadership and staff.

Below are our comments on the SCAG Connect SoCal Plan segmented by topic and chapter.

Additions shown as *italics*

Deletions shown as ~~strikethrough~~

SoCal Connect (Plan)

Executive Summary

We support the focus of “Fit it First” and encourage local transportation agencies to stop building new roads. History has shown that building new roads or widening freeways and roads does not solve the traffic problem—it simply allows more single occupant vehicles to be on the road, which SCAG is trying to avoid to reduce greenhouse gas emissions (GHG) and vehicle miles traveled (VMT).

It is exciting to see new tools such as tax increment financing included in the plan. However, there was a missed opportunity in the Executive Summary and throughout the Plan itself. We believe that tax-increment finance districts can and should be used to fund open space conservation. Our parks and open spaces are part of the community infrastructure that our taxes support—as the cities grow, so will our need for more parkland. Further, most cities do not meet the requirements of the Quimby Act. The 1975 Quimby Act established a statewide requirement that developers set aside land, donate conservation easements, or pay fees for park improvements (called park in lieu fees). Many jurisdictions have enacted local ordinances that require the maximum number of park acres per person under the Quimby Act - or 5 acres per 1,000 residents. As more houses are built and more land is used, more parkland will be needed as well. We suggest the following modifications:

Proposed Policy Modification (Plan, Pg. 49)

Support cities in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure, *including parks and open space*, and development projects.

Similarly, the comment about value capture tools and financing also applies to the “Support Implementation of Sustainability Policies” in the SCS (Pg. 27 & 29), as parks are part of our community infrastructure.

Proposed Modification (SCS, Pg. 27)

Support cities in the establishment of EIFDs, CRIAs, or other tax increment or value capture tools to finance sustainable infrastructure, *including parks and open space*, and development projects.

Proposed Modification (SCS, Pg. 29)

TIF is an important tool in the creation of sustainable communities, and NIFTIs specifically can fund multifamily affordable housing, transit capital projects, transit-oriented development, complete-streets capital projects, parking, *parks and open space*, and programs to reduce GHG emissions and VMT within TPAs.

Overarching Goals

We appreciate the effort to locate housing, jobs, and transit closer together and in priority growth areas, while simultaneously preserving natural resources and farmlands. It was great to see this consistent thread woven throughout the document.

When reviewing the 10 priorities of the Connect SoCal Plan, we noticed that the preservation of natural resources and farmlands actually aligns well with several other goals including:

1. Encourage regional economic prosperity and global competitiveness.
5. Reduce greenhouse gas emissions and improve air quality.
6. Support healthy and equitable communities.
7. Adapt to a changing climate and support an integrated regional development pattern and transportation network.

Often one policy can support another, and this can be accomplished with the goal of conservation.

Chapter 1: How the Plan was Developed

As the Plan was being developed, participants (FHBP included) in the planning workshops were asked to review four potential growth scenarios and strategies that go with those scenarios. Unfortunately, we found this exercise inequitable because not all growth scenarios apply to every geography in the SCAG region and therefore the strategies cannot apply equally across the region either.

For example, in a very urban area, creating an urban growth boundary or setting aside land for conservation is not feasible or realistic. However, those actions could work in areas that are still bordered by natural lands and are more suburban or rural. Different geographies need different strategies and different conservation tools. We hope that, in the next scenario development exercise in 2023, this will be considered and therefore make the exercise more realistic. Accordingly, we make the following suggestion:

Solution for Future Plan Exercises

Be cognizant of the tools provided and how they will or will not apply to each land use type. For example, tools used in an urban geography are likely not the same as those used in a rural geography.

Chapter 2: SoCal Today

We appreciate acknowledgement in the document that our habitat lands face severe development pressure and that those same lands are a valuable asset to our region, residents, and visitors. However, the document implies that construction, infill, and other “development based” activities are the only activities to generate economic growth. It is important to note that our natural lands and agricultural industry are also economic engines for the region. For every dollar invested in conserving natural lands, an estimated \$2.37 is generated through local sales, recreation purchases, gas, and snack/food purchases from outdoor enthusiasts. This is significant in its own right.

We commend cities and counties that prioritize conservation of our open spaces. Between acquisitions, policy adoption, mitigation measures, and public-private partnerships, local and regional governments have been successful at adding natural lands to the inventory. Here are a few of those examples:

- Laguna Beach residents (Orange County) taxed themselves decades ago to fund what essentially became an urban growth boundary around the city to protect their quality of life by purchasing hillsides.
- In San Bernardino County, efforts are currently underway to create a Regional Conservation Investment Strategy that closely links appropriate development locations with priority conservation areas.
- In Los Angeles County, a newly updated ordinance focuses on areas in need of more protection due to sensitive natural resources through an updated Significant Ecological Area layer.
- In Ventura County, residents passed Save Open Space and Agricultural Resources (SOAR), which includes a series of eight voter initiatives that require a majority vote of the people before agricultural land or open space can be rezoned for development.
- Both Riverside and Imperial Counties have implemented thoughtful conservation plans that aim to protect thousands upon thousands of acres as development and transportation projects advance.

While cities and counties participated in land preservation, conservation based non-profits have also contributed, delivering numerous park bonds, public and private conservation dollars, and acquisition and restoration projects that benefit our region. It is a disservice to limit acknowledgement of the conservation efforts to only municipalities. Therefore, we propose these modifications:

Proposed Modification (Plan, Pg. 36)

Many counties, *cities* and ~~cities~~ *conservation groups* in Southern California have excelled in their work to protect these vulnerable lands, but few plans or policies have been enacted to preserve habitat and farmlands on a regional scale.

Proposed Modification (N&FL Appendix, Pg. 4)

For the past several years, many of the SCAG region’s local governments, *public agencies* and ~~public agencies~~ *conservation groups* have taken action to conserve natural and farmlands through a number of policies and programs.

Chapter 3: A Path to Greater Access, Mobility & Sustainability

We hope that the Sustainable Community Strategies, specifically those listed in the Green Region, can be implemented across the Southland. The Plan’s goal is to “avoid growth in wetlands, wildlife corridors, biodiverse areas, wildfire prone areas, and flood plains” (Pg. 55). We fully support this, but remind SCAG that all of Southern California is part of the California Floristic Province—making the entire geography a “biodiverse area” that is threatened with development.

Further, many of our state and federally listed threatened and endangered species reside in our (protected and unprotected) natural areas. Decisions about what happens to the landscape (land use conversion) where these sensitive species live starts with local land use planners. Efforts are underway to list additional species on the California endangered species list, including the subspecies of mountain lion found in the Santa Ana Mountains. Without connections between open spaces, this local cougar population will face the genetic consequences of inbreeding and will

eventually the population will die out. Again, these connections between open spaces come back to land use decisions.

While we appreciate the link this plan provides between environmental mitigation and transportation planning (Pg. 58)—it is high time that all infrastructure projects provide that link. RAMPs should also be incorporated for water, electric, solar, wastewater, natural gas, and other infrastructure. All of these projects have environmental impacts. As an example, the Central Valley and Sacramento Valley RAMP Pilot Program linked both road and water projects in a RAMP. We are asking SCAG to expand the list in this section to more than just transportation projects so that the impacts of all projects are thoughtfully and comprehensively mitigated. Accordingly, we propose the following modifications:

Proposed Modification (Plan, Pg. 58)

Advance mitigation also benefits ~~transportation~~ *all* agencies with a more efficient permitting process, as well as reduced cost escalation and project delay. Regional advance mitigation planning takes this concept further and establishes inventories of anticipated impacts from ~~transportation~~ *infrastructure* projects across the region.

Chapter 6: Looking Ahead

We agree with the statement made on page 150: “Real progress can be made towards sustainable results over the next twenty-five years if cities and counties are equipped with sufficient resources and practical tools.” Unfortunately, we have found in our interactions with local cities and the County of Orange, that not only do their general plans not support this concept, but neither do the zoning codes. Further, in many instances, the planners, planning commissions, and city councils/boards of supervisors do not have a clear understanding of what “sustainable” actually means. SCAG is in a perfect position to serve as a clearinghouse for innovative policies, programs, sustainability efforts, etc., through its Toolbox Tuesday webinars or other training opportunities. As they say, “you don’t know what you don’t know.” We strongly recommend that SCAG use its regional leadership position and resources to teach, train, and educate.

Sustainable Communities Strategy (SCS)

We agree that development is occurring at the fringes of the urbanized region and in many instances these are places that (1) burn frequently, (2) lack appropriate infrastructure for houses, and (3) promote the single occupant vehicle habit. We suggest providing information to local cities and counties about how these fringe developments **add** GHG and VMT and that conservation of that land reduces those impacts. A landowner’s decision to sell their land for conservation supports private property rights and local control.

As it relates to the climate change issues raised (Pg. 3)—we appreciate your acknowledgement of these issues (extreme heat, sea level rise, wildfire frequency, and changing rainfall levels).

However, we are concerned at how the NIMBY (Not in my Backyard) and public opposition to projects was framed in the SCS. While we are aware that residents may oppose projects for any number of reasons, but finger pointing to NIMBYs as the problem isn’t helpful.

Trust in government is at an all-time low, and yet resident engagement is increasing. Any local opposition is tagged NIMBYism. And, the connotation behind the word “public” remains negative. Often times, residents’ main goal is to achieve a balanced policy solution to their concerns, and local activism on a controversial project should be seen as an opportunity for convening a public policy discussion on key issues. It appears that what decision makers perceive as frustration by the public is really a lack of tools deployed to resolve the issues. Training opportunities for decision makers exist that could help bridge this gap are offered by the Public Policy Institute of Pepperdine, as one example.

Further, every city in the SCAG region should have a goal to become a “responsive government” that pays attention to the residents, businesses, and visitors. Engaging the residents in goal setting is essential to creating a shared outcome that aligns the community, business, and city’s interests—a view *everyone* can support. A good public process includes not only results in a cost effective, timely, and goal-oriented process, but it also considers the culture and history of the topic. The latter seems to be consistently missing from the dialogue. Further, adhering to the policies set in the general plan or zoning code need to be followed or the expectations about a project shift based on the whim of the project applicant.

Residents, businesses, developers, decision makers, and staff all use the governing general plan as tool for understanding what is in store for the community now and in the future. This “rule book” is like a compact between developers, the local government, and residents. It sets the stage for future development and change and offers predictability. Residents often find themselves at odds with projects because developers ask for modifications to the “rule book.” In other words, what the developer wants is not what is codified in the general plan, and so they opt to change the plan—instead of changing the project. This changes the playing field for every project and makes the work that has gone into the general plan moot. Perhaps more importantly, the community’s compact with the governing agency is broken and trust can be lost.

There are many instances where we (the “public”) provide numerous solutions to the problems a particular development faces—and when it comes time to vote on a project, our leaders ignore those suggestions. If there were better training for elected officials on how to interact with the public, address concerns, and listen—many of the issues could be resolved. This type of “blind eye” mentality only perpetuates the “blame game” that public involvement is bad and only leads to opposition.

Within the “Final Growth Vision” (Pg. 22) the SCS states: “...decisions about how growth will actually occur are up to each local jurisdiction.” In other words, the cities can ignore the goals of this plan and do what they want. This is why our point about educating the local jurisdictions about opportunities related to transportation, housing, land use, and conservation are so very important. It is more difficult to ignore good policy when you understand it and its impacts.

One of the items that seems lacking from the “Protect the Environment and Conserve Natural Resources” section (Pg. 24) is that when land is consumed (converted from greenfield to urban uses), GHG emissions and VMT are increased. This should be acknowledged—or alternatively state that leaving natural lands in their existing state sequesters carbon instead of emitting carbon. We suggest the following modifications:

Proposed Modification (SCS, Pg. 24)

By contrast, a pattern that places a greater share of new growth in dispersed standard development patterns consumes more greenfield land. *Additionally, converting greenfield and agricultural lands typically adds GHG and VMT to the region.*

We support the approach to this plan to avoid high hazard areas for wildland fires, sea level rise, flooding, etc. The less we build in those locations, the less we have to defend them and rebuild them in the future.

Within the “Promote a Green Region” (Pg. 27), “reducing consumption of resource areas, including agricultural areas” does not actually protect the land. The conservation mechanism is missing.

Proposed Policy Modification (SCS, Pg. 27)

“Protect ~~Reducing consumption of~~ resource areas, including agricultural land.”

This gets at the same intent (not converting it to urban uses), but actually takes the step forward of protecting it so the possibility of future potential conversions never has to happen again.

Page 29 covers the “Tools” that can be used to help with sustainable placemaking, specifically urban heat island reduction. This component easily benefits disadvantaged communities throughout the Southland and should be incorporated as a tool for the Environmental Justice Appendix. Inclusion of trees makes urban areas cooler, provides more shade for those on bike or foot, improves the sense of community, and cleans the air.

FHBP supports, in full, the absolute constraint (Pg. 32) that growth cannot or should not occur in existing open spaces or on conserved land. We would urge that easement lands and mitigation sites also get included in this list. As for the variable constraints, we agree with this list as well—especially the inclusion of wildland-urban interface and wildfire prone areas (Calfire Very High Fire Severity Zones).

Proposed Policy Modification (SCS, Pg. 32)

- *Conserved and easement lands, as well as mitigation sites*

On Page 33, the list of Data and GIS Maps referenced in this document are helpful. We’d offer the California Conservation Easement Database (CCED) as a future tool. It can be found at: <https://www.calands.org/cced/>.

Demographics and Growth Forecast Appendix

Within the Demographics and Growth Forecast Appendix, it states:

“Following public input and SCAG’s analysis of the GHG/VMT benefits of the alternative scenarios, a preferred growth forecast scenario was chosen which prioritizes

growth in areas such as job centers and transit priority areas which have regional transportation benefits. (see **EXHIBITS 1-9**.)”

Exhibits 1-9 appear in conflict with the description of the “absolute constraints.” For example, the absolute constraint of not building in existing open spaces or on conserved lands (as described in the SCS, Pg. 32) conflicts with the growth forecast areas. We recognize these growth forecasts were built using the transportation area zones (TAZ) and those zones that do not necessarily align with boundaries of conserved lands, but, these maps provide a false projection of growth in the region and within specific TAZs. The map should depict what is and is not an area of absolute constraint to align with what has been stated previously about where growth can and cannot occur.

Natural & Farmlands Appendix

Vision

FHBP supports the inclusion of natural and farmland preservation as a tool to reduce GHG and VMT. However, we are concerned that the goal of “Promote conservation of natural and agricultural lands and restoration of habitats” lacks the specific actions needed to actually conserve land. We suggest an action-oriented emphasis like “conserve” or “partner to conserve...” as follows:

Proposed Modification (N&FL Appendix, Pg. 2)

~~“Promote conservation of~~ *Conserve* natural and agricultural lands and ~~restoration of~~ habitats.”

Proposed Modification (Plan, Pg. 9)

~~“Promote conservation of~~ *Conserve* natural and agricultural lands and ~~restoration of~~ habitats.”

Further, FHBP just completed a yearlong study of restoration projects and their rate of success or failure. What we found was that most projects struggled to meet the mitigation measure requirements necessary under the California Environmental Quality Act (CEQA). In several instances (Pg. 2 & 11), the Appendix mentions removing non-native plants. Our study shows that this goal was part of the restoration project too, but the non-native seed bank was able to outcompete the native plants and dominate the landscape after the restoration. So, while improving habitats through removal of non-native plants is a commendable goal, it can be difficult for some to achieve without the proper site preparation, funding, experience, long-term stewardship, etc. Since restoration is a possible focus of this policy, we encourage SCAG to review the information and recommendations from our study. It can be accessed at: <https://www.fhbp.org/resources/studies-reports/ceqa-mitigation-study/>.

Policy & Regulatory Framework

As noted previously under Chapter 2 (the Plan), it is not prudent to rely on cities and counties (1) to protect our natural lands, or (2) to develop plans and policies to conserve them. Specific actions must be taken to ensure the preservation happens in perpetuity—acquisition and

ownership by a park/non-profit, a conservation or agricultural easement, or enrollment in a Conservation Plan.

Regional Conservation Approach

De-emphasizing growth in wetlands, wildlife corridors, and wildfire prone areas is a great step in identifying areas of regional importance. SCAG should consider supporting local, regional, and statewide efforts already underway in the conservation arena—especially where broad coalitions already exist. Along these lines, we suggest the following modification:

Proposed Modification (Plan, Pg. 9)

“To further prioritize natural habitat areas and avoid impacts to the environment, Connect SoCal will seek to deemphasize growth in wetlands, wildlife corridors, high-biodiversity areas, wildfire prone areas, and floodplains. *Aligning SCAG’s role and support with those of local, regional, and statewide conservation efforts is another opportunity.* This approach intends to focus regional growth in existing communities, and reflects various goals of the plan such as adapting to a changing climate and promoting conservation of agriculture and natural lands.”

For example, the Coast to Cleveland Connection focuses on connecting the 22,000+ acres of the Laguna Coast to the Santa Ana Mountains. Efforts are underway with the resource agencies, cities, transportation agencies, non-profits, and park managers to make this happen. When these partnerships are available, SCAG should support them.

Another example is the Hillside Open Space and Education Coalition, which, in 2004, united the cities of Brea, La Habra, La Habra Heights, and Whittier and the unincorporated communities of Hacienda Heights and Rowland Heights. The goal was to seek ways to preserve strategic hillside parcels in the Puente-Chino Hills and to mobilize public resources to preserve and acquire the parcels threatened by development. This Coalition is working with State Parks, local cities, residents, and non-profits. Again, this is another opportunity to support an existing effort—if and when the need arises.

Conservation Policies and Programs in the SCAG Region

We were pleased to see the addition of Agrihoods, the Liberty Canyon Wildlife Crossing, and Ventura County Habitat Connectivity and Wildlife Corridor Ordinance in the lineup of new activities being undertaken in the SCAG region.

For the Orange County Transportation *Authority* (not *Association* as listed on Pg. 14 of the N&FL Appendix), it may be helpful to provide context that the funding available in the Environmental Mitigation Program is five percent of the freeway revenues, which in 2005 dollars was \$243.5 million.

Proposed Modification (Plan, Pg. 9)

“Thirty million dollars for approximately 1,300 acres of land and \$10 million on 350 acres of habitat restoration have been funded through Measure M2. *The Measure provides five percent (\$243.5M in 2005 dollars) of the freeway revenues to fund this program.*”

On Page 16 the first paragraph indicates there are five adopted major conservation plans, but actually demonstrates in the text there are six. This should be corrected as follows:

Proposed Modification (N&FL Appendix, Pg. 16)

“Currently, there are ~~five~~ *six* adopted major conservation plans made up of multiple jurisdictions within SCAG’s boundaries (**EXHIBIT 5**).”

Within the OCTA Measure M2 NCCP/HCP, there have actually been 12 restoration projects funded. The addition of dam removal projects within the Cleveland National Forest were approved by OCTA’s Environmental Oversight Committee in May 2016 and the full OCTA board in February 2017.

Proposed Modification (N&FL Appendix, Pg. 16)

“Since the initial funding round in 2010, 1,300 acres of natural lands have been acquired and ~~eleven~~ *twelve* restoration projects have been funded.”

Exhibit 5 fails to include the Southern HCP in Orange County. Since the OCTA Plan overlays the entirety of both the Central-Coastal and Southern Plans, it may be helpful to have the OCTA plan displayed in a patterned texture on top of the other Orange County plans.

Opportunities

We are pleased to see the inclusion of an opportunities section within the Appendix (Pg. 18). However, we’d like to see this section expanded to more than just the Greenhouse Gas Reduction Fund (GGRF) Resources—there are many other tools, strategies, and techniques that can be utilized to conserve natural lands and simultaneously reduce GHG and VMT. Some other funding sources to conserve natural lands are listed in the Environmental Coalition letter to be submitted January 23, 2020.

Additionally, FHBP completed a study of innovative ways to link housing, transportation, and conservation through policies and funding mechanisms. This study is available for download at: <https://www.fhbp.org/resources/studies-reports/healthy-communities-toolkit/>.

The tools mentioned include items such as:

- Urban Growth Boundaries
- Crowdfunding
- Social Impact Bonds
- Real Estate Transfer Fees
- Community Benefit Fees
- Landfill Tipping Fees
- Differential Development Fees

We recommend extending past the GGRF as the only listed source to support the conservation of natural resources—as there are many others that currently exist at the local, regional, state, and federal level.

Recommended Policies

We have been a supporter of SCAG and its efforts to include natural land preservation in the RTP/SCS. However, we were disappointed to see that of the 10 policies recommended in the Natural and Farmlands Appendix all 10 policies were replicated word for word from the 2016 Appendix. It is as if no further thought into how the natural world has changed or where the locations of intense development pressure now exist. In the four years since the last plan, new policy recommendations could have been created and incorporated. New policies could be pulled from the list above described in the Opportunities section. We recognize that there may be an internal issue with adding “new” policies in an appendix that aren’t captured in the RTP or SCS itself. One solution to this is to rename the section “Strategies” because what is included in the list are actually implementation strategies for achieving a reduction in GHG and VMT using land conservation and restoration as a tool.

Next Steps

Of the five “Next Steps” described in the Appendix, three of them were from the 2016 plan. The only creative next step is the development of the regional greenprint, as SCAG is already engaging stakeholders via the Working Group. What we would have expected from the Next Steps section is a forward advancement of the 2016 activities. Our suggestions are below.

“Encourage Advance Mitigation Programs” could have forward motion by:

- Identifying infrastructure agencies about to adopt major programs/policies that could incorporate these advance mitigation programs.
- Working to retroactively adopt mitigation programs or policies within existing transportation measures.

“Align with Funding Opportunities and Pilot Programs” could have forward motion by:

- Assisting local agencies with tax increment financing measures that include conservation and parks as a key goal.
- Apply for state or federal conservation funding to complete projects of regional and/or statewide significance.
- Launch a pilot program that advances sustainable activities like water quality improvements, natural land acquisition, agricultural easement purchases, or restoration project implementation.
- Feature conservation funding in a Toolbox Tuesday for how local jurisdictions and/or non-profits can fund local projects.

“Provide Incentives for Jurisdictions to Work Across County Lines” could have forward motion by:

- Engaging with cross-jurisdictional conservation alliances to add support, value, and funding to the effort.
- Focus SCAG grants on conservation projects of regional significance as a tool for connecting habitat lands together cross-jurisdictionally.
- Identify locations where cross-jurisdictional alliances should exist and bring the parties together.

Thank you for the opportunity to comment the Connect SoCal documents. We hope our feedback is constructive and helps SCAG achieve its overarching goal of 714-964-0516.

Sincerely,



Michael Wellborn
President



January 20, 2020

Dear Connect SoCal Team:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) (collectively called Connect SoCal). In 2012, with release of the prior RTP/SCS, Friends of Harbors, Beaches and Parks coordinated a cross-county regional conservation coalition focused on the inclusion of natural lands mitigation and policies within that SCAG plan. Our organization, Sierra Club's Hobo Aliso Task Force is now a part of this growing coalition in 2020.

The Hobo Aliso Task Force works in Orange County and has since 2001. Our mission is to protect and preserve finite natural resources and uphold the Coastal Act and other applicable laws and policies that support our mission. We have had important successes since our inception including saving many acres of land from develop, protecting and preserving ESHA and endangered species from poorly planned fuel modification, and implementing crucial restoration projects to bolster the biodiversity in areas that are considered hot spots.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

We are pleased to see conservation of our natural and agricultural lands as one of the 10 main policies of Connect SoCal. Land preservation that not only reduces greenhouse gas (GHG) emissions, but also sequesters carbon. Any investment in habitat restoration improves this sequestration potential as well. When land is left in its natural state, no new "vehicle miles travelled" are added to the region's transportation system. We believe including land conservation is a step in the right direction. SCAG has demonstrated that Metropolitan Planning Organizations can play a vital, thoughtful, and science-based role in mitigating impacts to our natural environment from transportation, infrastructure, and other development projects. By incorporating natural and farmlands protection strategies into your policy document, we believe the many benefits of this broad-based conservation approach will be realized sooner than expected. Thank you for your leadership.

Our organization supports the idea that as new growth occurs it should be focused in existing city-centers and near transit. When developments are built in the city center, it relieves pressure from the fringe.

However, the Plan fails to outline exactly how (or with what conservation mechanism) these fringe lands (or any lands) will actually be protected. Just because the pressure is relieved by focusing development elsewhere, doesn't mean the land then automatically becomes protected. We know this is a fact due to multiple experiences our organization has experienced. Numerous organizations, ours included, focus our work on protecting important habitat lands. A lot of time, energy, money, strategy, and political will are combined to create a successful conservation transaction that lead to permanently conserved lands. And once the land is conserved, it needs care and attention, AND ongoing protection. Further, just because local agencies may be contributing to the conservation arena, in no way should you discount the roles of the conservation non-profit community. In short, SCAG must identify the actual mechanism, process or plan on how the greenfields and agricultural lands will be protected.

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, protection of cultural and archeological sites, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands also filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water resources. And last, but not least, our future generations must not be forgotten – they too must have open space and parkland. Our children have taken to the streets to let adults know how much they care about the planet, we must support them and make sure we are doing our very best to protect and preserve our finite natural resources.

The Plan outlines that the region anticipates an additional 3.8 million people by 2045 providing increased pressure to our existing parkland. Existing studies document that many communities in the Southern California region already do not have enough parkland as outlined by the Quimby Act (five acres per 1000 residents). As cities grow, more parks and more park access will be needed. What is the mechanism for this? Additionally, and more importantly, these city parks are fundamentally different than habitat-focused parks. Usually city and regional parks include high intensity activities, like turfed soccer and baseball fields. The types of land acquired as mitigation or through local conservation efforts typically focus on preservation of natural habitat and less intensive uses (birding, hiking, etc.). In fact, many of these mitigation lands have limited or managed public access. Providing “more” access to either high or low intensity parks and/or habitat lands may have significant consequences for the land manager. How additional access will be provided should be addressed, as well as how additional lands will actually be preserved.

Wildlife corridors are getting more and more attention these days. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain environmental functions, be sustainable over the long term, and include plans for long-term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land, or they completely ignore the need for these corridors. Ensuring our open spaces are connected to one another is essential for species survival. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as fire, flood or landslide, and improve the resiliency in the face of climate change impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors prior to commencing impactful projects.

1

Many non-profits are working to ensure additional bays, estuaries, wetlands, bluffs, and beaches are preserved forever. Additionally, one way our coasts are connected to inland areas are through our rivers and streams. These riparian areas serve as recreational trail corridors, water recharge and infiltration locations, and serve as places our wildlife use for watering sources. However, transportation and land use generated urban runoff are still problems. Our beaches and coastline are inundated with pollution, and a 303(d) listing is simply not acceptable, and can be prevented. Litter, debris, and pollutants should be decreased prior to reaching the coast. Ensuring everyone has a positive experience on the sand and in the surf should be our goal and is our collective responsibility, but we need to address Southern California's trash and contaminants problem.

One key way to improve the environment is through restoration projects. Our organization works very hard at finding creative ways to fund and maintain restoration projects. These can be on land, in riparian areas, on the beach, as well as in the ocean. Restoration provides benefits by adding native plants, removing the non-native plants and their seedbank, as well as increasing carbon storage, and providing improved habitats for our wildlife. Our environment benefits from these improvements, as do our watersheds, our air, and our communities. Having improved habitats means that our water is cleaner, our soils won't erode as easily, it creates jobs for local residents, and our unique biodiversity is maintained. Further, the many endemic and threatened/endangered plants and animals benefit from these restoration projects as well. Thank you for including restoration as a key component in the natural lands and agricultural policy.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I can be reached at . In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to

Sincerely,

A handwritten signature in cursive script that reads "Penny Elia".

Penny Elia
Task Force Chair
Save Hobo Aliso Task Force
Sierra Club



P.O. Box 54132
Irvine, CA 92619-4132

California Cultural Resource Preservation Alliance, Inc.
An alliance of American Indian and scientific communities working for
the preservation of archaeological sites and other cultural resources.

Dear Connect SoCal Team:

Thank you for the opportunity to comment on the Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) (collectively called Connect SoCal). In 2012, with release of the prior RTP/SCS, Friends of Harbors, Beaches and Parks coordinated a cross-county regional conservation coalition focused on the inclusion of natural lands mitigation and policies within that SCAG plan. Our organization, California Cultural Resource Preservation Alliance, Inc. (CCRPA), is now a part of this growing coalition in 2020.

CCRPA works in Los Angeles and Orange counties and has since 1998. Our mission is to protect and preserve cultural resources such as sacred sites, archaeological sites, historic sites, and Traditional Cultural Places in Southern California with a focus on Orange and Los Angeles Counties. Preservation of natural and farmland results in the preservation of these cultural resources. We have had important successes since our inception including the preservation of the 100-acre, 7,000-year-old Tomato Springs site in east Irvine.

We offer the following comments on the Natural and Farmland policy, goals, and next steps.

Many of the benefits of open space and parkland have been outlined in the Plan and Natural Lands Appendix. We wish to make sure that the protection of cultural resources is not overlooked. It has been estimated that 90% of archaeological sites in southern California have been destroyed to make way for development. We strongly support the preservation of open space as the means of protecting the remaining cultural and archaeological sites that are an important part of our national patrimony. In addition, there are many economic benefits of open space. These are realized through increased property values, ecosystem services, support of local businesses through park visitor purchases, and a reduction in the urban heat island effect. Further, conservation of natural lands has many on-the-ground co-benefits like access to recreational opportunities, preservation of important habitats and species, increased job opportunities, protection of threatened/endangered species, and environmental education experiences. Our natural lands also filter water, clean the air, and provide homes for wildlife. Natural lands preservation also protects our watersheds, rivers, and water sources. Voters consistently support measures that benefit their local water resources.

The plan outlines that the region anticipates an additional 3.8 million people by 2045 providing increased pressure to our existing parkland. Existing studies document that many communities in the Southern California region already do not have enough parkland as outlined by the Quimby Act (five acres per 1000 residents). As cities grow, more parks and more park access will be needed. What is the



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Wildlife corridors are getting more and more attention these days. Ensuring survival of the top predator and the suite of species in the ecosystem means our natural lands must also maintain environmental functions, be sustainable over the long term, and include plans for long term stewardship. The issue is that many housing and transportation projects eliminate the wildlife movement corridors and fragment the landscapes into smaller, less viable pieces of land. Ensuring our open spaces are connected to one another is essential for species survival. Wildlife corridors allow landscapes to maintain ecological functions, allow places for regeneration after natural disasters such as fire, flood or landslide, and improve the resiliency in the face of climate change impacts. The Plan would be stronger if it supported the enhancement of and/or protection of documented wildlife corridors *prior to commencing* impactful projects.

Thank you for reviewing our comments and we look forward to working with SCAG on the implementation of this Plan, especially as it relates to the conservation policy and Natural and Farmlands Appendix. Should you need to contact me, I can be reached at 949 559-6490. In addition, we request to be included on any notifications (electronic or otherwise) about this policy's creation and implementation, please send information to p.martz@cox.net.

Sincerely,

Patricia Martz, Ph.D.
President, California Cultural Resources Preservation Alliance, Inc.

From: [Marven Norman](#)
To: [2020 PEIR](#)
Subject: Comments
Date: Friday, January 24, 2020 1:28:54 PM
Attachments: [Connect SoCal - Google Docs.pdf](#)

Please find attached my comments on the Connect SoCal PEIR.

Cheers

Connect SoCal Plan

- Page 9: The Goals need to be re-ordered. It would be great for current #6 to move to the top spot and #1 to move down quite a bit.
- Page 129: Outcome 2 lacks measures for active transportation delay.
- Page 138: plan has too much business-as-usual to reasonably expect to meet GHG Emissions Reduction targets and electrification shouldn't be seen as the magical panacea that will waltz into town over the next decade to cure the problem of relying too much on cars.

Active Transportation Appendix

- Page 8: There might be decisions to be made about phasing as we retrofit the legacy of the existing environment, but the expectation needs to be that bicycle and pedestrian infrastructure will be at a minimum, built everywhere roads are paved.
- Page 13: Gentrification concerns are real, but they arise due to an absolute dearth of quality active transportation infrastructure in essentially the entire SCAG region. Thus, the construction of any amenities are unfortunately also going to be likely to attract people who can afford to spend more on housing and to the extent that it also allows them to reduce car use and free up household cashflow, that can find its way into the local economy, giving it a boost. However, especially given the safety issues, we cannot let fears of gentrification dominate the ability to provide safety improvements via improved bicycle and pedestrian infrastructure and indeed, research by Lusk et al. has identified that residents of lower-income communities are still quite interested in high-quality bike facilities.¹ Instead, it makes it even more important to make them basic expectations by including them in all standard plans for new build and refurbishments as well as prioritizing expanding the networks of the provisions as fast as possible to lessen the potential for any one neighborhood or community bearing the brunt of the changes in a particular area.
- Page 14
 - GoHuman is an invaluable tool for improving Public Opinion and should receive more funding to be able to do more events to help showcase both short-term and more permanent investments. However, as mentioned in the comments on gentrification, there is a need to move beyond small pilots both to avoid gentrification concerns as well as to maximize the potential by way of expanding improvements to be within reach of more communities.
 - Given the lack of funding, what is available needs to be directed to where it will provide the maximum impact. That makes it absolutely essential to provide best practice accommodation for bicyclists and pedestrians in standards to make them a routine part of ongoing projects. That also could help address Public Opinion by changing the framing of the situation. There will not be controversy at all over something that has existed from the beginning.

¹ Lusk et al. (2017). Biking practices and preferences in a lower income, primarily minority neighborhood: Learning what residents want.

- Page 24: Cost Assumptions & Mode Shift should look at national and international guidance and experiences as well as take a clear-eyed approach to the topic. Many of the current bike facilities in the region are simply not on par with best practices of even yesteryear in places that have substantially more ridership. In addition, a number of studies have identified the potential improvements that would come from including world-class infrastructure, particularly when done to form entire networks to connect to destinations and transit.²³ That literature should be reviewed to identify the true potential for better investments based on the completeness of networks (including by filling in critical gaps) and by building the infrastructure itself to higher standards (e.g. a six-foot bike lane next to a multilane arterial is NOT best-practice).
- Page 31: As noted above, additional research by Lusk et al. has identified that there is great interest for improved bike facilities in low(er)-income communities, the same communities that Connect SoCal already notes are more likely to have people biking even as they're also less safe. These facts should be leaned on more heavily, not in a patronizing way, but to impart the importance of making the changes necessary to support riders. That ultimately is a point directly related to the next section on Environmental Justice.
- Page 44: A discussion about Class III bikeways being part of the total needs to be had because the classification is too ambiguous and a number of jurisdictions simply use it as an excuse to not do anything meaningful and they remain high-stress environments under the LTS system developed by Furth referenced elsewhere in the document.
- Page 51: Broadly speaking, micromobility is best served by what is traditionally known as bike infrastructure. However, legal definitions mean that use by those modes is technically illegal because certain facilities are defined as being for the exclusive use of bicycles. Nevertheless, the bike facilities are still the best place for most of them to be used, but they do underscore the importance of adequate designs for bikeways, something which has not necessarily been anywhere close to truly taken to heart in the region in all but a scant few projects.
- Page 59: It's encouraging to see that the Local Bikeway Infrastructure component recognizes that big changes will be necessary in some areas and the four Strategies listed will if followed, all be influential in creating the positive changes necessary. However, an additional Strategy is needed to ensure that any and all new-build developments are built to avoid the need for retrofits in the first place. Such a Strategy needs to emphasize providing direct connections to transit, including with parking at transit stops and stations, and local destinations as well as laying out an integrated network as part of the initial planning and design of **all** greenfield and large-scale brown-/greyfield projects in the region.
- Page 60: Though called "first-last mile," it should be acknowledged that with bikes and especially e-mobility devices, that distance can reasonably and easily be extended to be several miles. Thus, it would be helpful to identify a FLM Infrastructure Strategy to target

² Lowry, Furth, & Hadden-Loh. (2016). Prioritizing new bicycle facilities to improve low-stress network connectivity.

³ Karens. (2007). Promoting bike-and-ride: The Dutch experience.

bike infrastructure to an increased radius around stations beyond a single mile and place priority on making sure it offers users as few necessary stops as possible.

- Page 63: Complete Streets Strategies need to place a focus on making sure that the plans include defined and recognized low-stress facilities and networks.
- Page 69: Table 11 lists changes under Connect SoCal that are appallingly anemic. Research from London's work shows that even in suburban areas, changes can have broad impacts and substantially increase walking and biking.⁴
- Page 82: Table 12, Colton has completed their ATP.

Aviation and Airport Ground Access Appendix

- Page 8: Section about KONT trails off mid-sentence.
- Page 34: There are additional opportunities to provide rail access to KONT that merit serious consideration. Those are described in my comments on the Passenger Rail Appendix below.

Highways & Arterials Appendix

- Page 13: The regional express/HOT lane network is pathetically inadequate at present and the plans fall FAR short of what is needed. **Every** single limited-access highway in the entire region that has more than two travel lanes per direction should *immediately* have at least one (but preferably two if available) of the additional lanes **converted** to be HOT lanes, with the revenue being reinvested into maintenance needs, active transportation infrastructure, and transit service in the corridors. Doing so would be the single-most cost-effective measure possible to dramatically improve the congestion issues in the region while also greatly expanding the options available to people by filling critical funding gaps that currently exist for active transportation, transit, and even arterial/highway investments.
- Pages 17 & 18: Performance results need to include delay incurred by bicyclists and pedestrians, particularly the impact that signal timing issues have on the latter group.

Passenger Rail Appendix

- Page 7: The Thruway services mentioned in the Pacific Surfliner subsection can now (or will soon be possible to) be booked as standalone trips without a linking rail segment thanks to SB742 which Gov. Newsom signed into law last year.
- Page 12: Metrolink should work with local partners to improve the bike parking at its stations.
- Page 20: SCRRA section notes that "VCTC has one votes" which should presumably be singular.
- Page 24: The segment on the Metrolink San Bernardino Line is also true for the Metrolink Inland Empire/Orange County Line, so it should be mentioned as well.

⁴ Alred, Croft, & Goodman. (2019). Impacts of an active travel intervention with a cycling focus in a suburban context: One-year findings from an evaluation of London's in-progress mini-Hollands programme.

- Page 27: Discussion of Los Angeles to Coachella Valley service needs to include planning to bridge the gap between the tracks into Redlands which will soon host Redlands Rail and the UP Yuma Subdivision. Doing so would allow passenger service from LA to the Coachella Valley to serve both Riverside *and* San Bernardino via the same trains as well as provide more direct service directly into LA via the agency-owned tracks of the San Bernardino Line. The most logical place to do so is likely along California Ave. on the border between Loma Linda and Redlands. The inclusion of a station in the vicinity of the Barton Rd./CA Ave. intersection would provide easy access to the community and be a valuable point for extending Omnitrans' sbX Green Line service from its current terminus at the VA hospital in Loma Linda, serving daily commuters traveling to Loma Linda University's campuses as well as into Redlands via the existing fixed-route services. This is an urgent and critical gap to fill to vastly improve transit service in the entirety of the SCAG region and beyond as it would be a natural part of the Southwest High-Speed Rail Network discussed on Page 28. Also, service beyond Indio into Imperial County should be considered. The new DMU options that are now available make it more realistic to serve that market and provide service all the way to Calexico using the existing right-of-way. UP will undoubtedly be a significant barrier and their single-tracked corridor of the Yuma Subdivision from east of Indio will be a problem for many opportunities to improve transit throughout the SCAG region, so a plan should be made to at a minimum, provide additional sidings and double-track through that area to mitigate their concerns.
- Page 28: Southwest High-Speed Rail Network would derive immense benefit from a "California Connector" to be constructed on the Loma Linda/Redlands border to bridge the gap between the UP Yuma Subdivision and the agency-owned tracks approximately a mile north which would provide expedited services and transfer opportunities to LA, Riverside, San Bernardino, and beyond.
- Page 34: There is an opportunity directly east of Ontario Airport to provide a rail connection along Haven Ave. that would link the UP Alhambra Subdivision to the UP Los Angeles Subdivision. That would enable a reroute of the Riverside Line trains over that alignment and provide comparatively immediate relief to the current lack of any direct rail connection at the airport. It would also present the ability to provide residents living in downtown Ontario daily Metrolink service, a connection which they currently lack. Doing so would support the Transformative Communities grant that the City already received and is implementing by adding additional high-quality transit service. However, in the longer-term, rail service to ONT would be best provided by an entirely new Metrolink line. This San Gabriel Valley/KONT Line would leverage public investments in the Alameda Corridor-East program to provide a competitive running time for the service. An ideal routing would be via the UP Alhambra Subdivision with stops at the USC Keck School of Medicine Hospital complex, El Monte, which would provide transfer opportunities to the Metrolink San Bernardino Line, a Cal Poly Pomona station, Downtown Pomona, Downtown Ontario, and Ontario Airport. From there, the first option would be to continue to Riverside and on to Perris, but a second option would be to route some trains north to the existing San Bernardino Line tracks via either an existing

siding by the Fontana Speedway, the UP Palmdale Subdivision, or the BNSF San Bernardino Subdivision through Colton. Exactly which of those three options is the best would be determined via further study, though it's perhaps worth noting that the latter option means that there could be another station that could be added in Colton.

- Exhibit 3: The marker for improvement #5 from Table 3 is misidentified as improvement #8 and nothing identifies the marker for improvement #8.
- Page 44: The opportunities for filling gaps and providing new service identified above would presumably need to be studied, but that should be done with haste.

Albert Perdon – Email

The following input is provided for inclusion in the public comments on the 2020 PEIR. SCAG has not sufficiently analyzed or documented the environmental impacts that will result from adoption of the current draft Program Environmental Impact Report (DRAFT) for the "Connect SoCal" 2020-2045 RTP (Regional Transportation Plan/Sustainable Communities Strategy).

The reason is, the DRAFT does not take into adequate consideration the impacts that will result, both within and outside of SCAG's geographic boundaries, from implementation of the 2008 Proposition 1A bond (BOND) measure approved or not opposed by 74% of eligible voters. This measure and the law (LAW) it enacted mandates (1) quick construction of an 800-mile high-speed train (HST) system from Sacramento to San Diego and to San Francisco/Oakland, connecting and serving up to 24 new very high-density and largely auto-free new and improved cities (NEW CITIES) that are required to be planned, built and partially funded by the up to 24 NEW CITIES in coordination with the California High Speed Rail Authority, and (2) improvements to HST-connected transit systems and services of the CITIES, as defined in the LAW.

SCAG cannot use as an excuse for skirting the requirements of CEQA/NEPA, that the cities, not SCAG, are responsible for and have exclusive authority over controlling land use. Exclusive land use authority within the HST station influence areas of the CITIES is overridden by the LAW

Henry Fung

Include consideration of intercity bus, similar to passenger rail, as a mitigation of aviation impacts (i.e., Flyaway Bus to LAX, intercity bus for medium distance trips like Los Angeles to Fresno or Las Vegas).

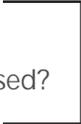
1

Discuss changes necessary to incorporate increases in density and shifts in growth after adoption of final RHNA and Housing Elements. What amendments are projected to the PEIR?

2

Jordan Sisson

When will the program EIR be released?



1

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January 3, 2020

Kome Ajise
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Via email : 2020PEIR@scag.ca.gov

Re: THE 2020-2045 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY OF THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENT PROGRAM ENVIRONMENTAL IMPACT REPORT

Thank you for the opportunity to comment on the *SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Environmental Impact Report*. The Plan states as its goals:

1. *Encourage regional economic prosperity and global competitiveness*
2. *Improve mobility, accessibility, reliability, and travel safety for people and goods*
3. *Enhance the preservation, security, and resilience of the regional transportation system*
4. *Increase person and goods movement and travel choices within the transportation system*
5. *Reduce greenhouse gas emissions and improve air quality*
6. **Support healthy and equitable communities**
7. *Adapt to a changing climate and support an integrated regional development pattern and transportation network*
8. *Leverage new transportation technologies and data-driven solutions that result in more efficient travel*
9. *Encourage development of diverse housing types in areas that are supported by multiple transportation options*
10. *Promote conservation of natural and agricultural lands and restoration of habitats*

1

While I agree that supporting healthy and equitable communities for all residents is an admirable goal, the Plan, does not address the possible or probable denigration of the quality of life for the residents of San Marino due to increased traffic.

The stated environmental impact thresholds of significance include the following criteria and defers to local jurisdiction.

3.17.3 ENVIRONMENTAL IMPACTS

3.17.3.1 Thresholds of Significance

The impacts related to transportation, traffic and safety resulting from the implementation of the proposed project would be considered significant if they would exceed the following significance criteria, in accordance with Appendix G of the State CEQA Guidelines:

- **Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.**
- *Conflict or be inconsistent with CEQA Guidelines section 15064.3(b).*
- *Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*
- *Result in inadequate emergency access.*

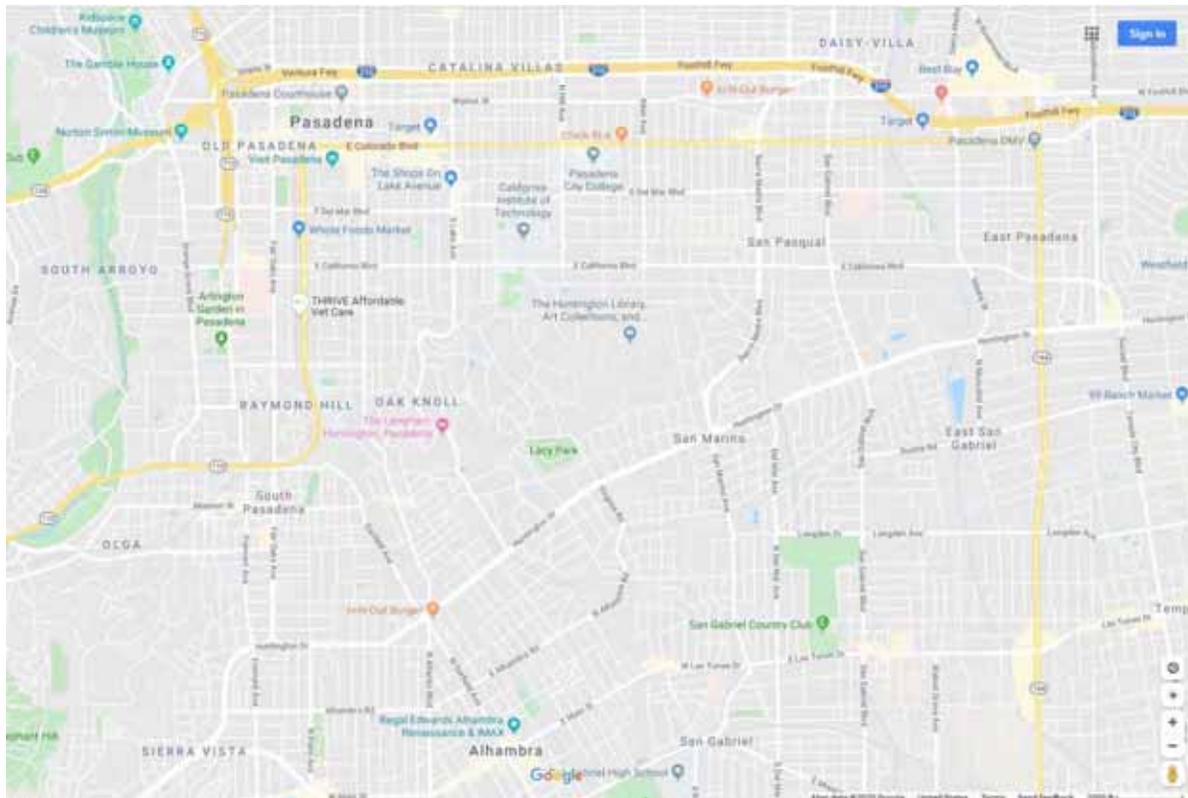
2

Planned Projects

1. There is one project located in the City of San Marino. The objective of this project is to increase traffic flow on Huntington Drive, Sierra Madre Boulevard and San Gabriel Boulevard in a residential area. We object to this project based upon its stated objective.

LOS ANGELES, LOCAL HIGHWAY, LAF7119, 1AL04, 0, \$1,445,000

HUNTINGTON DRIVE MULTIMODAL CAPACITY ENHANCEMENTS: (1) CONSTRUCT A SECOND LEFT-TURN LANE AT THE 2 INTERSECTIONS AT SAN MARINO AV AND AT SAN GRABIEL BL (EASTBOUND ON HUNTINGTON DR AND NORTHBOUND ON SAN MARINO AV AND SAN GABRIEL BL) TO INCREASE CAPACITY AND TRAFFIC FLOW. (2) MODIFIES SIGNAL TIMING TO SHORTEN THE LEFT-TURN MOVEMENT ON HUNTINGTON DR. (3) EXTENDS SIDEWALKS AND ENHANCE PEDESTRIAN FACILITIES.



3

2. The Technical Report for Highways and Arterials describes Adaptive Traffic Control Systems:

TECHNICAL REPORT HIGHWAYS AND ARTERIALS

ADAPTIVE TRAFFIC CONTROL SYSTEMS According to the AASHTO Sustainability Peer Exchange Briefing Paper (2009), Caltrans implemented Adaptive Traffic Control Systems (ATCSs) on seven corridors in Los Angeles County as a demonstration project. **Traffic signal systems that respond in real-time to changes in traffic patterns are known as "adaptive."** ATCSs continuously detect vehicular traffic volume, compute "optimal" signal timings based on detected volume and simultaneously implement them. Reacting to these volume variations generally results in reduced delays, shorter queues and decreased travel times. ATCSs are designed to overcome the limitations of pre-timed control and respond to changes in traffic flow by adjusting signal timings in accordance with fluctuations in traffic demand. The purpose of Caltrans' demonstration project is to deploy and evaluate the effectiveness of the future ATCS on the State arterial street network that experiences both

4

recurrent and non-recurrent delay. The ATCS system was shown to reduce travel time by 12.7 percent, reduce average stops by 31 percent, and decrease average delays by 21.4 percent

The following project is planned for South Pasadena. We object to this project based upon its functionality and objective of increasing traffic flow.

11TS04

SOUTH PASADENA'S ATMS, CENTRAL TCS AND FOIC FOR FAIR OAKS AV. THIS PROJECT IS LOCATED IN SOUTH PASADENA ON FAIR OAKS AV BETWEEN COLUMBIA ST AND HUNTINGTON DR. IT WILL ESTABLISH A FIBER-OPTIC BACKBONE COMMUNICATION SYSTEM CONNECTION BETWEEN 12 SIGNALS ON FAIR OAKS AV AND CITY HALL AND INSTALL THE ATMS/CENTRAL MANAGEMENT/CONTROL SYSTEM AT ITS CITY HALL BUILDING. FUNDS ARE FOR DESIGN AND CONSTRUCTION COSTS.

4

Concerns

The City of San Marino has been established as a residential community for over 100 years. It is entirely built, with no room for growth and is located in the San Gabriel valley such that an abundance of cut-through traffic utilizes the residential streets. We are being overwhelmed by ever increasing traffic. There is little in the EIR that addresses this issue. The planned projects for the surrounding areas risk negating the stated Plan goals with regard to the City of San Marino.

The increasing traffic is a public nuisance, exacerbates environmental conditions and diminishes public safety. Of particular concern to us are the following:

- Increasing northbound-southbound traffic utilizing residential streets as cut-through routes.
- Increasing eastbound-westbound traffic utilizing residential streets as cut-through routes.
- Increasing eastbound-westbound traffic utilizing Huntington Drive with significant safety risk to students and residents. Residences and six schools are located on the segment of Huntington Drive in San Marino.
- The implementation of Adaptive Traffic Control Systems.

5

The environmental impacts defer to local jurisdiction and cannot *conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities*. The SCAG Regional Transportation Plan, is just that: **regional**, and proposes many projects for increasing mobility and traffic flow, that do not originate in the city of San Marino, but will adversely affect it by increasing its ongoing operating costs, decreasing property values and diminishing the quality of life of the residents. It appears that the city of San Marino, with local jurisdiction, is left to fend for itself.

Sincerely,



Stephanie Johnson and Ghassan Roumani

cc: Marcella Marlowe, Ph.D, City Manager, City of San Marino
 Michael Throne, PE, Parks & Public Works Director/City Engineer, City of San Marino
 Gretchen Shepherd Romey, Mayor, City of San Marino
 Ken Ude, Vice Mayor, City of San Marino
 Dr. Steven W. Huang, Council Member, City of San Marino
 Susan Jakubowski, Council Member, City of San Marino
 Steve Talt, Council Member, City of San Marino

10.0 CORRECTIONS AND ADDITIONS

10.1 OVERVIEW

The *California Environmental Quality Act (CEQA) Guidelines* Section 15088.5 requires:

- (a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice of its availability ... “significant new information” requiring recirculation includes, for example, a disclosure showing that:
 - (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
 - (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
 - (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project’s proponents decline to adopt it.
 - (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.
- (b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in the adequate EIR.
- (c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified.
- (d) Recirculation of an EIR requires notice pursuant to Section 15087, and consultation pursuant to Section 15086.
- (e) A decision not to recirculate an EIR must be supported by substantial evidence in the administrative record.

New information is “significant” if as a result of the additional information “the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.” *Laurel Heights Improvement Ass’n v. Regents of Univ. of Cal.* 864 P.2d 502, 510 (1993) (*Laurel Heights II*). *State CEQA Guidelines* Section 15088.5(a). Recirculation is not mandated when the new information merely clarifies, amplifies, or makes and insignificant modification to an adequate draft EIR. (*Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova*, 150 P.3d 709 (2007) (quoting *Laurel Heights II*, 864 P.2d at 510); see also *Marin Mun. Water Dist. v. KG Land California Corp.*, 235 Cal.App.3d 1652, 1667 (1991) (citing *Sutter Sensible Planning v. Board of Supervisors* 122 Cal.App.3d 813 (1981)).

In response to public comments received, clarifications to the mitigation measures, as well as staff-initiated text changes have been made to the Draft Program EIR (“Draft PEIR”). Additional information has been identified in comments to the Draft EIR and responded to in **Chapter 9.0, Responses to Comments**, of this Final Program EIR. These changes made since publication of the Draft PEIR do not substantially affect the analysis contained in the Draft PEIR, do not result in a substantial increase in the severity of a significant impact identified in the Draft EIR and do not change the conclusions in any way.

All public comments to the Draft PEIR, as well as these Corrections and Additions to the Draft PEIR have been carefully reviewed to determine whether recirculation of the Draft PEIR is required. All the new information in these Corrections and Additions to the Draft PEIR and in the comments and in the responses to comments merely clarify or amplify or make insignificant modifications to an adequate Draft PEIR. Therefore, the Draft PEIR need not be recirculated prior to certification.

Corrections and Additions

This section consists of corrections and additions to the Draft PEIR that have resulted from responses to comments received from agencies and the public. All corrections and additions to the Draft PEIR were made to increase the understanding of the PEIR. These changes are minor and do not change the findings or conclusions of the PEIR.

The corrections and additions presented in this section provide information that is not required as a result of the following: new significant environmental impacts; substantial increases in the severity of the environmental impacts that have been proposed; the presentation of new, considerably different, and feasible alternatives or mitigation measures that would lessen the environmental impacts and were not adopted by the applicant; or the inadequacy of the Draft PEIR. The updates presented in this section are consistent with the findings as presented in the PEIR and/or are minor. In accordance with *CEQA Guidelines* Section 15088.5, recirculation of the PEIR document is not required where the new information added to the PEIR merely clarifies or amplifies or makes insignificant modifications in an adequate PEIR.

Page numbers refer to the Draft PEIR. Text deleted from the Draft PEIR is shown in strikethrough, and new text is underlined.

As noted in Chapter 8.0, Introduction, SCAG models are used to provide gross estimates of regional environmental parameters (in particular VMT, criteria pollutant emissions and GHG emissions).

However, the inputs to these models are subject to variability (location and density of land uses, travel patterns, fuel make up, pricing assumptions and many more). Because of this, minor changes to assumptions, resulting in minor changes to modeling results, are not statistically significant. Final

modeling data results from both the SCAG Regional Travel Demand Model and the Scenario Planning Model offered improved performance in some measured areas of Connect SoCal, including VMT per capita (5.0% reduction from 4.2%) and daily delay per capita (25.7% reduction from 22.4%). Several of the economic opportunity indicators also were improved by the final model runs, with the benefit/cost ratio for Connect SoCal investments increasing from 1.54 to 2.06, and the annual number of new jobs generated by improved regional economic competitiveness increasing from 195,500 to 264,500. As noted above, SCAG has made a number of refinements to the Connect SoCal Plan (as well as alternatives) including to land use patterns, transportation projects and policies. None of these refinements result in substantial changes to the information presented in the Draft PEIR, including modeling results.

Executive Summary

The first sentence under the heading “Transportation Network” on page ES-8 is revised to clarify the term “roadways.”

The region’s transportation network comprises more than 9,000 miles of public transit, 5,000 miles of bikeways, 135,578 lane miles of roadways, including highways and freeways, and 94 miles of express lanes.

The first full paragraph on page ES-9 is revised to read as follows:

There are many contributors to the overall housing shortfall, such as state regulations, zoning, costs and fees... Additionally, population and employment growth in metropolitan areas in California has slowed in recent years, in part, because wages cannot compensate for the high cost of housing.

On page ES-10, the following sentence is modified:

Since the Plan envisions ~~foresees~~ regional growth with transportation system improvements, it identifies strategies to...

On page ES-11, under the subheading for “Highway and Arterial Network,” the following sentence is clarified:

Since the Plan envisions ~~foresees~~ regional growth with transportation system improvements, it identifies strategies to...

On page ES-11, following the subheading “Highway and Arterial Network,” the following revision is made:

Highway and Arterial Network. Connect SoCal emphasizes working with partner implementing agencies to prioritize projects that preserve and optimize the existing highway and arterial network. Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll roads, toll lanes and Express/HOT lanes.

On page 2.0-29, and page 3.4 -85 or Section 3.4, Biological Resources, mitigation measure PMM BIO-3 sub bullet (d) is revised as follows:

- d) Where avoidance is determined to be infeasible and proposed projects’ impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, and/or County Special Area Management Plans (SAMPs), the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities:

The following mitigation measures included in Table ES-5 on pages 2.0-18 through 2.0-71 and throughout the document are revised to include the phrase “as applicable and feasible” PMM BIO-1, PMM BIO-2, PMM BIO-3, PMM BIO-4, PMM BIO-5, PMM BIO-6, PMM CULT-1, PMM GEO-1, PMM CULT-2, PMM GEO-1, PMM GHG-1, PMM NOISE-2, PMM TRA-1, PMM TCR-1.

In Table ES-5 and throughout the document SMM GEO-3 and PMM GEO-3 are renumbered to SMM GEO-2 and PMM GEO-2, respectively.

Introduction

On page 1.0-3, the text before the heading 1.1 SCAG Region and Authority is revised to include the term “and counties” after. This change is made throughout the document.

...cities and counties....

On Page 1.0-3, text regarding the regions airports in the third paragraph has been corrected:

The total area of the SCAG region is approximately 38,000 square miles. The region includes the county with the largest land area in the nation, San Bernardino County, as well as the county with the highest population in the nation, Los Angeles County. The SCAG region is home to approximately 19 million people, or 49 percent of California's population, representing the largest and most diverse region in the country. The region is home to the two largest container ports in the Western Hemisphere (Los Angeles and Long Beach), and the world's ~~fourth~~ fourth busiest airport system (Los Angeles World Airports).

On Page 1.0-4, text in the third paragraph is revised to clarify the roles of SCAGs committees:

SCAG provides opportunities to participate in regional planning through collaboration and participation in regional programs and dialogs. Responsible for regional policy direction and review, standing committees at SCAG include the Executive/Administration Committee, the Transportation Committee, the Community, Economic & Human Development Committee, the Energy & Environmental Committee, ~~and Legislative/Communication & Membership Committee, and Emerging Technologies Committee.~~ In addition to the standing committees, there are various subcommittees (such as the Regional Housing Needs Assessment (RHNA) Subcommittee). In addition, there are technical advisory committees, working groups, and task forces that advise SCAG staff through their input and support report to the, while other groups are established on an ad hoc basis to assist with specific projects or address specific regional policy.

On page 1.0-17, at the end of the first full paragraph, the following is added:

As appropriate and applicable, it is anticipated that individual jurisdictions would identify project-specific performance criteria consistent with the identified mitigation measures.

On page 1.0-13, a comma is added after "orientation" to clarify the following sentence:

However, because locations, densities, orientation, timing, and other site-sensitive factors related to development are not specified in the Plan, SCAG cannot reliably quantify the impacts from such anticipated development.

On page 1.0-15, an addendum is added to the sentence to refer the reader to more information about the “Accelerated Tomorrow Scenario.”

This alternative analyzes more aggressive densities and land use patterns than included in the Accelerated Tomorrow Scenario (further described in the Connect SoCal Sustainable Communities Strategy Technical Report).

Project Description

On Page 2.0-21, Table 2.0-6, Connect SoCal Guiding Principles, is deleted and replaced with the following table:

Connect SoCal Guiding Principles	
1	<u>Connect SoCal will be adopted at the jurisdictional level, and directly reflects the population, household and employment growth projects that have been reviewed and refined with feedback from local jurisdictions through SCAG’s Bottom-Up Local Input and Envisioning Process. The growth forecast maintains these locally-informed projected jurisdictional growth totals, meaning future growth is not reallocated from one local jurisdiction to another.</u>
2	<u>Connect SoCal’s growth forecast at the Transportation Analysis Zone (TAZ) level is controlled to not exceed the maximum density of local general plans as conveyed by jurisdictions, except in the case of existing entitlements and development agreements.</u>
3	<u>For the purpose of determining consistency with Connect SoCal for California Environmental Quality Act (CEQA), grants or other opportunities, lead agencies such as local jurisdictions have the sole discretion in determining a local project’s consistency; SCAG may also evaluate consistency for grants and other resource opportunities; consistency should be evaluated utilizing the goals and policies of Connect SoCal and its associated Program Environmental Impact Report (PEIR).</u>
4	<u>TAZ level data or any data at a geography small than the jurisdictional level has been utilized to conduct required modeling analysis and is therefore advisory only and non-binding, given that sub-jurisdictional forecasts are not adopted as part of Connect SoCal. TAZ level data may be used by jurisdictions in local planning as they seem appropriate. There is no obligation by a jurisdiction to change its land use policies, General Plan, or regulations to be consistent with Connect SoCal.</u>
5	<u>SCAG will maintain communication with agencies that use SCAG’s sub-jurisdictional level data to ensure that the “advisory and non-binding” nature of the data is appropriately maintained.</u>

Source: SCAG Connect SoCal Guiding Principles, 2020

On Page 2.0-21, Table 2.0-7, Connect SoCal Performance Measures, has been revised.

Table 2.0-7 Connect SoCal Performance Measures		
Outcome	Performance Measures	Connect SoCal Goals
Location Efficiency	Share of regional households located growth occurring in HQTAs	7, 9
	Share of regional employment located growth occurring in HQTAs	1, 7
	Land consumption	7, 10
	VMT per capita	2, 5
	Average distance traveled for (work and non-work trips)	2, 5
	Percent of trips less than 3 miles (work trips and non-work trips)	2, 5
	Work trip length distribution (<10 miles and <25 miles)	2, 5
Mobility and Accessibility	Person delay per capita	2, 4
	Person hours of delay by facility type (mixed flow/ HOV/arterials)	2, 4
	Truck delay by facility type (highways/arterials)	1, 4
	Travel time distribution by mode Percentage of trips less than 45 minutes by mode (PM Peak Period)	2, 8
	Transit mode share	4, 7
	Mean commute time (all modes)	2, 8
Safety and Public Health	Collision fatality rate (per 100 million VMT)	2, 6
	Collision serious injury rate (per 100 million VMT)	2, 6
	Air pollution-related health measures	5, 6
	Physical activity-related health measures	6, 7
	Mode share for walking and biking	6, 7
Environmental Quality	Greenhouse gas (GHG) emissions reduction	5, 6
	Criteria pollutant emissions	5, 6
	Non-SOV mode share	2, 4
Economic Opportunity	New jobs supported by improved economic competitiveness	1, 4
	New jobs supported by transportation system investments	1, 3
Investment Effectiveness	Transportation system investment benefit/cost ratio	1, 3
Transportation System Sustainability	Cost per capita to preserve multimodal transportation system in current state of good repair	1, 3
	Interstate highway pavement condition	1, 3
	Non-interstate National Highway System pavement condition	1, 3
	National Highway System bridge condition	1, 3
Environmental Justice	Environmental Justice Performance Measures	6, 9

Source: SCAG ~~2019-2020~~

Pages 2.0-10 to 2.0-12, are revised to include the following:

2.5.1 Growth Vision, Consultation, Local Input and Public Outreach

Growth Vision: The Growth Vision for Connect SoCal identifies areas enough to house the region's population, including all economic segments of the population, through 2045 – taking into account net migration to the region, population growth, household formation, and employment growth. It also identifies areas sufficient to house an eight-year projection of housing need for the region.

In developing this vision, SCAG engaged with all 197 towns, cities, and counties in the region one-on-one to seek feedback on local growth between 2016 and 2045. SCAG also sought feedback on potential sustainable growth strategies from a broad range of stakeholder groups – including local jurisdictions, county transportation commissions, other partner agencies, industry groups, community-based organizations, and the general public. Connect SoCal utilizes a bottom-up approach in that total projected growth for each jurisdiction reflects feedback received from jurisdiction staff, including city managers, community development/planning directors, and local staff. Growth at the neighborhood level (i.e. transportation analysis zone (TAZ)) reflects entitled projects and adheres to current general and specific plan maximum densities as conveyed by jurisdictions (except in cases where entitled projects and development agreements exceed these capacities as calculated by SCAG). Neighborhood level growth projections also feature strategies that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law.

Connect SoCal's Growth Vision is utilized for long range modeling purposes. SCAG does not have the authority to implement the plan -- neither through decisions about what type of development is built where, nor what transportation projects are ultimately built, as Connect SoCal's adoption will be at the jurisdictional level. Achieving a sustained regional outcome depends upon informed and intentional local action. In addition, the proposed use of Connect SoCal's growth forecast in the Regional Housing Needs Assessment (RHNA) is described with detail in materials available at <http://www.scag.ca.gov/programs/Pages/Housing.aspx>.

Technical Consultation with SCAG's Technical Working Group (TWG): To ensure transparency and technical veracity during all phases of this process, SCAG has had regular engagements with the TWG to seek guidance. Membership on the TWG includes staff from local jurisdictions, county transportation commissions, subregional organizations, community-based organizations, and universities. Examples of consultation has included an assessment of the survey elements and datasets that underwent review by local jurisdictions and an overview of the scenario planning process, results of outreach, and technical

elements. The TWG also provided feedback on the approach for finalizing the Connect SoCal Growth Vision.

Bottom-Up Local Input and Envisioning Process: ~~Local Input Process:~~ The most recent RTP/SCS for the SCAG region was adopted by SCAG in April 2016. State law requires that it is updated every four years. Connect SoCal is an update that builds upon the growth patterns and strategies developed in the 2016 RTP/SCS but with updated planning assumptions that incorporate key economic, demographic and financial trends from the last four years.

SCAG developed a “Bottom-Up Local Input and Envisioning Process,” which assisted the agency in understanding ~~as to~~ what is happening at the local level – and formed the basis for projections and strategies in Connect SoCal. The local input process was approved and adopted by the SCAG Regional Council in October 2017.

SCAG held one-on-one meetings with all 197 local jurisdictions. In addition to seeking feedback on regional forecasts of population, household and employment growth, SCAG gathered data on land use, protected natural lands, farmland, flood areas and coastal inundation, regional bikeways, regional truck routes, planned major transit stops, high quality transit corridors, future transit priority areas, and other local data. In addition to the jurisdictions themselves, the data came from county assessors’ offices, county transportation commissions, and state and federal partners.

Approximately ~~82~~ 90 percent of local jurisdictions provided feedback on one or more data elements requested for local review. ~~Collectively, these towns, cities and counties represent an estimated 94 percent of the region’s residents.~~ SCAG staff also regularly convened a series of technical advisory groups that engaged local, state, and federal agencies in the transportation and sustainable communities planning process.

Regional Collaboration on Scenario Development: SCAG engaged with a diverse group of stakeholders through regional planning working groups, where monthly meetings began in May 2018 and served as a forum to obtain feedback on potential Connect SoCal strategies to better integrate land use, housing, and transportation. Feedback informed how data gathered through one-on-one sessions with local jurisdictions from the Bottom-Up Local Input and Envisioning Process could be utilized in developing Connect SoCal scenarios – principally how SCAG could envision a future that promoted regional outcomes for sustainability that also recognized the importance of local control. Moreover, outreach and events conducted in partnership with 18 community-based organizations across the region garnered feedback from stakeholders from traditionally underrepresented communities. These organizations assisted with workshop and survey outreach as well as hosting local gatherings for community members

to provide input on Connect SoCal.

Coordination with County Transportation Commissions: SCAG worked closely with each of the six county transportation commissions (CTCs) throughout 2018 to update the list of major local transportation projects that were listed in the 2016 RTP/SCS. Each CTC in turn worked with their partner transportation agencies (including applicable transit providers, rail operators, marine port and airport authorities and Caltrans District offices) to finalize a list of county-priority projects to submit to SCAG. This effort culminated in a comprehensive update to the list of programs and projects, capital list of projects, which numbers in the thousands. SCAG worked collaboratively with key stakeholders to identify additional regional initiatives that go beyond county-level commitments and projects that are intended to address challenges that are regional in nature.

Topic Specific Working Groups: SCAG has regularly convened topic-specific working groups, which bring together regional stakeholders to discuss the Plan's development and provide technical expertise. There were seven formal Regional Planning Working Groups, including Active Transportation, Environmental Justice, New Mobility, Natural Lands Conservation, Public Health, Sustainable Communities, and Transportation Safety. Additionally, SCAG convened an Emerging Technologies Committee (ETC). The ETC was formed to identify technological and societal trends (e.g. mobility as a service; zero emissions, automated and connected vehicles; smart cities and ITS; and the future of work) that may fundamentally alter the use of the region's transportation system and land use patterns. Emerging technology is a topic of intense speculation and interest at the regional planning level. Numerous popular press and academic articles have advanced the argument that the transportation sector is currently experiencing a period of changing transportation that has not been seen since the first decades of the previous century. Like that period, changes are now predominantly driven by private sector companies. In addition, the companies driving these changes are doing so through disruptive business models.

~~**Outreach to Community Based Organizations:** SCAG conducted a grassroots outreach initiative to engage diverse constituencies across Southern California. SCAG collaborated with 18 community based organizations (CBOs) from across the region. These organizations assisted with workshop and survey outreach as well as hosting local gatherings for community members to provide input on Connect SoCal.~~

A subsection describing SCAG's Growth Vision has been added on page 2.0-10:

Growth Vision

SCAG used the performance of each scenario as well as input gathered through the public workshops to develop a final growth vision for the plan. This vision aims to increase mobility options and reduce the need for residents to drive by locating housing, jobs, and transit closer together. To help the region achieve sustainable outcomes, Connect SoCal's final growth vision focuses growth within jurisdictions near destinations and mobility options and promotes an improved jobs-housing balance to reduce commute times. This is reflective of Connect SoCal's Core Vision, built upon and expanding land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern.

The growth vision and the forecasted regional development pattern carries forth many principles from the initial scenario development to ensure that growth is feasible in terms of existing land use planning. This forecasted regional development pattern directs growth to Priority Growth Areas (PGAs) outlined below including: near existing and planned transit, within existing job centers, in communities with existing and planned infrastructure to support more walkability and use of alternative transportation modes, and in areas identified for jurisdictional expansion (i.e. spheres of influence). The growth vision includes entitled projects, reflects the local input growth totals and follows currently adopted local plans to allocate growth within the existing general plan maximums. It also accounts for absolute constrained lands which are legally protected from development and variable constrained lands which are dependent on local policies or voluntary actions. For more information regarding growth vision, please refer to the SCS Technical Report of the Final Connect SoCal Plan.

On Page 2.0-29, a new subsection titled constrained areas has been added:

Constrained Areas

Absolute Constrained Areas:

There are inherent constraints to expansive regional growth and Connect SoCal recognizes locations that are susceptible to natural hazards and a changing climate. Options have been emphasized that conserve important farmland, resource areas and habitat corridors, while envisioned growth on lands that are vulnerable to wildfire, flooding, and near-term sea-level rise will be decreased. The growth constraints outlined below are used to articulate where future growth is not encouraged. Absolute constraints reflect areas where growth has been reduced and redirected to achieve Connect SoCal's regional vision. Variable

constraints reflect goals of Connect SoCal and were only applied to growth when there was not capacity in non-constrained areas per a jurisdiction's general plan or specific plans (as conveyed).

Tribal Nation Lands: SCAG utilized the Census Bureau's American Indian/Alaska Native/Native Hawaiian (AIANNH) Areas database for 2017 to identify tribal nations in the SCAG region.

Military Lands: Locations of military lands are derived from SCAG's 2016 Existing Land Use Database, which underwent review and refinement by local jurisdictions through the Bottom-Up Local Input and Envisioning Process.

Open Space and Conserved Lands: Data on conservation areas, open space, and parks from year 2017 comes from the Save Our Agricultural Resources (SOAR) protected areas in Ventura County, the California Conservation Easement Database, as well as the California Protected Areas Database (CPAD). Together, these data inventories represent protected open space lands, conserved areas, and conservation easements in the SCAG region and the greater State of California. Several elements were developed by aggregating and cross-checking various open space data from multiple public agencies by GreenInfo Network, and also benefit from feedback provided by local jurisdictions through SCAG's Bottom-Up Local Input and Envisioning Process.

Sea Level Rise Areas (2 feet): Data on coastal inundation were obtained from the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center's online mapping viewer depicting potential sea level rise and its associated impacts on the nation's coastal areas (accessed by SCAG in 2017). These data depict the potential inundation of coastal areas resulting from a projected 2 feet rise in sea level above current Mean Higher High Water (MHHW) conditions, and underwent review by SCAG's local jurisdictions.

Farmlands in Unincorporated Areas: Farmland information was obtained from the Farmland Mapping & Monitoring Program (FMMP) in the Division of Land Resource Protection in the California Department of Conservation. Established in 1982, the FMMP is to provide consistent and impartial data and analysis of agricultural land use and land use changes throughout the State of California. For SCAG's purposes, data from year 2016 (and 2014 in areas where 2016 data was unavailable) underwent review and refinement by local jurisdictions through the Bottom-Up Local Input and Envisioning Process.

The first paragraph of Page 2.0-30 has been updated to reflect the latest financial assumptions:

Anticipated land use patterns as part of Connect SoCal provide a strategic opportunity to build a smart transportation system that is responsive to the region's changes and challenges. Connect SoCal includes

proposed strategies for transportation investments, totaling approximately \$638.69 billion.

On Page 2.0-30, language describing Variable Constrained Areas has been added:

Variable Constrained Areas:

Wildland-Urban Interface (WUI): Data on areas where housing and vegetation intermingle (“intermix WUI”) and areas with housing in the vicinity of contiguous wildland vegetation (“interface WUI”) were derived from the 2010 national Wildland-Urban Interface dataset developed by the SILVIS Lab at the University of Wisconsin-Madison.

Grazing Lands and Farmlands within Incorporated Jurisdictions: Similar to farmlands identified in unincorporated areas, grazing lands and farmland information within incorporated areas were identified through the Farmland Mapping & Monitoring Program (FMMP) in the Division of Land Resource Protection in the California Department of Conservation, which underwent review by local jurisdictions.

500 Year Flood Plains: Information on flood areas were derived from the Digital Flood Insurance Rate Map (DFIRM), obtained from Federal Emergency Management Agency (FEMA) in August 2017. The DFIRM Database is a digital version of the FEMA Flood Insurance Rate Maps (FIRM) that is designed for use with digital mapping and analysis software. The FIRM is created by FEMA for the purpose of floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP) and was included for local jurisdiction review through SCAG’s Bottom-Up Local Input and Envisioning Process.

CalFire Very High Severity Fire Risk (state and local): Information on areas with very high fire hazards was derived from CalFire’s state responsibility area and local responsibility area Very High Fire Hazard Severity Zone (VHFHSZ) data, accessed by SCAG in early 2019.

Natural Lands and Habitat Corridors: Data on habitat corridors was derived from California Essential Habitat Connectivity Project, as developed by the California Department of Fish and Wildlife, which identifies large blocks of intact habitat or natural landscapes with connectivity corridors essential for local wildlife. This dataset benefits from feedback from a selection of federal, state, local, tribal, and non-governmental organizations throughout California, and was made publicly available in 2010.

Page 2.0-26, 2nd bullet point under “Focus Growth Near Destinations and Mobility Options” has been revised:

Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets

Page 2.0-26, 2nd bullet point under “Promote Diverse Housing Choices” has been revised:

- Identify funding opportunities for new workforce and affordable housing development

Page 2.0-27, 2nd bullet point under “Leverage Technology Innovations” has been revised:

- Improve access to services through technology- such as telework and telemedicine as well as ~~commuter~~ other incentives such as a “mobility wallet”, an app-based system for storing transit and other multi-modal payments

Page 2.0-27, 3rd bullet point under “Support Implementation of Sustainability Policies” has been revised:

- Support ~~cities~~ local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects including parks and open space.

Page 2.0-31, language under “Congestion Pricing” has been revised:

Congestion Pricing. ~~Connect SoCal identified three congestion pricing strategies, two of which were incorporated into the 2012 and 2016 RTP/SCS:~~

- Develop a network of express lanes, that connects to existing express lanes in order to accommodate growing inter-county travel
- Establish a mileage-based user fee to generate a funding source for aging infrastructure and construction of other travel options
- Develop Cordon/Area Pricing which involves charging a variable or fixed fee to drive into or within a highly congested area.

Page 2.0-34, 7th bullet point under “Transportation Safety” has been revised:

- ~~Improve research and data collection~~ Leverage emerging technologies

Page 2.0-34, first bullet point under Transportation Demand Management has been revised:

- Reduce the number of SOV trips and per capita VMT through ~~ridesharing~~ ridesharing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit

Page 2.0-34, a discussion regarding Transportation Systems Management has been added after the discussion about Transportation Demand Management:

Transportation Systems Management. Transportation Systems Management (TSM) employs a series of techniques designed to maximize the capacity and efficiency of the existing transportation system. Effective TSM strategies reduce traffic congestion, improve air quality, and reduce or eliminate the need to construct new and expensive transportation infrastructure. Many TSM strategies seek to optimize the operation of the existing transportation system through use of Intelligent Transportation Systems (ITS). For example, advanced technologies can anticipate changing traffic conditions and inform drivers about driving conditions on a real-time basis so that drivers can make more informed decisions. SCAG recently updated the Regional ITS Architecture which identifies a significant number of planned ITS projects, including those related to connected vehicle applications, transit signal priority, emergency response, express lanes, and goods movement.

On page 2.0-35, the sentence below is revised to include toll roads:

Projects include interchange improvements, auxiliary lanes, general purpose lanes, carpool lanes, toll roads, toll lanes and Express/HOT lanes.

Aesthetics

On page 3.1-40, mitigation measure PMM AES-3 has been revised:

PMM AES-3: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to address potential aesthetic impacts that substantially degrade visual character, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a) Use lighting fixtures that are adequately shielded to a point below the light bulb and

reflector and that prevent unnecessary glare onto adjacent properties.

- b) Restrict the operation of outdoor lighting for construction and operation activities to the hours of 7:00 a.m. to 10:00 p.m. or as otherwise required by applicable local rules or ordinances.

Agriculture and Forestry

Page 3.2-23, Mitigation Measure SMM AG-3 has been revised:

SMM AG-3: SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning and implementation funds, such as cap and trade auction proceeds that could advance ~~help~~ prepare for local action on acquisition and restoration projects locally and regionally, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.

Air Quality

Page 3.3-1, the following text is added following the first paragraph:

The U.S. EPA, California Air Resources Board and the South Coast Air Quality Management District describe air quality, environmental impacts and public health impacts from air quality based on three major categories of emissions:

- Criteria Air Pollutants
- Toxic Air Pollutants / Toxic Air Contaminants
- Greenhouse Gases (refer to **Section 3.8 Greenhouse Gas Emissions**)

On Page 3.3-7, additional language has been added as the opening paragraphs for the environmental setting:

Although air quality has improved significantly over the past decades, the SCAG region still experiences among the worst air quality in the country. Almost the entire SCAG region fails to meet the health-based federal air quality standards for one or more transportation related air pollutants. In addition to public health impacts from unhealthy air quality, the challenge of meeting health-based federal air quality standards has serious implications for the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the Federal Transportation Improvement Program (FTIP), and transportation

projects in the SCAG region.

A particularly pressing challenge is for the South Coast Region to meet the 2023 statutory deadline of attaining the 1997 ozone standard. Pursuant to the federal Clean Air Act (CAA), a Contingency Measure Plan was recently developed jointly by the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (ARB) and subsequently submitted to U.S. Environmental Protection Agency (EPA). The Contingency Measure Plan highlights the critical need for federal regulatory actions and/or funding to address emission sources under federal jurisdiction including aircraft, ships, trains, and out-of-state trucks in order to meet the air quality standard. This is in addition to the regulatory actions, programs and incentive funding SCAQMD and ARB have developed to achieve emission reductions.

If U.S. EPA disapproves the air plan, a federal sanctions clock will be triggered which will lead to federal highway sanctions if the underlying deficiency cannot be resolved within 24 months. Highway sanctions restrict federal funding to transportation projects that expand highway capacity, nonexempt project development activities, and any other projects that do not explicitly meet exemption criteria. If imposed, highway sanctions have the potential to impact billions of dollars of federal funding and tens of billions of dollars of important transportation projects in the SCAG region.

Transportation especially the goods movement sectors contributes to the overwhelming majority of air pollutant emissions causing ozone pollution. A comprehensive and coordinated regional solution including aggressive regulations, advancements in clean technologies, innovative solutions, and integrated land use and transportation planning from all levels of governments and all stakeholders will be required to achieve the needed emission reductions from the goods movement sectors.

Finally, the emissions of air pollutants come from a wide range of sources and may be transported upwind. Therefore, a mitigation strategy should be in place to assist impacted communities, even if the emissions are not being locally produced.

Page 3.3-19 is revised as follows:

Existing Motor Vehicle Criteria Pollutant Emissions

The existing conditions (base year 2019) of the motor vehicle criteria pollutant emissions for the six counties in the SCAG region are shown in **Table 3.3-5, Motor Vehicle Criteria Pollutant Emissions by County—Existing Conditions (2019)**. [The table title is similarly revised.]

The first paragraph on page 3.3-55 is revised to read as follows:

As mentioned above, air quality management and air pollution control districts are responsible for addressing air pollution from stationary sources, construction equipment, airplanes, trains, and ships within the SCAG region. These air quality and air pollution control districts include SCAQMD, MDAQMD, VCAPCD, AVAPCD, and ICAPCD. ~~The SCAQMD includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.¹ Therefore, SCAQMD's 2016 AQMP's analysis of the emissions resulting from stationary sources, construction equipment, airplanes, trains, and ships is discussed below as a proxy for these emissions throughout the entire SCAG region. A review of the air district's emissions is summarized below.~~

The second paragraph on page 3.3-55 is revised to include the following:

In addition to on-road mobile sources provided by SCAG, SCAQMD's 2016 AQMP provides emissions estimates for stationary, and off-road mobile sources from 2019 to 2031, see **Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**. VCAPCD's 2016 AQMP provides ROG and NOx emission estimates for stationary and off-road mobile sources from 2018 to 2035 for the SCCAB, see Table 3.3-13, 2016 AQMP Forecast of Annual Average Total Emissions in SCCAB. AVAQMD and MDAQMD regulate emissions in the MDAB and their *Federal 8-hour Ozone Attainment Plans* estimate stationary and off-road mobile sources for 2018 to 2016, see Table 3.3-14, AQMP Forecast of Annual Average Total Emissions in MDAB in 2026. The ICAPCD's 2018 Resignation Request and Maintenance Plan for Particulate Matter Less than 10 Microns in Diameters includes projected PM10 emissions from 2018 to 2030 for the SSAB, see Table 3.3-15, 2018 Maintenance Plan Forecast of Annual Average Total Emissions in SSAB in 2030. MDAQMD's 2008 Ozone Attainment Plan includes projected emissions only to 2020, as a result, an analysis was not included. Stationary sources include both point and area sources...

Page 3.3-56, last paragraph, third sentence is revised as follow:

Portions of the SSAB (City of Calexico) are also in nonattainment for PM2.5. The rest of the SSAB and SCCAB (Ventura Portion) ~~is and portions are the SSAB are also in nonattainment for PM2.5.~~

¹ South Coast Air Quality Management District. Map of Jurisdiction. Available online at: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-jurisdiction.pdf>, accessed October 2, 2019.

On page 3.3-56, the following text is added following the last paragraph:

~~Other air basins in the SCAC region include the South Central Coast Air Basin (SCCAB), Salton Sea Air Basin (SSAB), and the Mojave Desert Air Basin (MDAB). As demonstrated in Table 3.3-4, similar to SCAB, all three air basins are in nonattainment for ozone and PM10. The SCCAB and portions of the SSAB are also in nonattainment for PM2.5. Each of these air basins has an AQMP to plan the basin's attainment status pursuant to the federal CAA Amendment. P to address nonattainment of ozone in the southwestern desert portion of the basin.²~~

As shown in Table 3.3-13, 2016 AQMP Forecast of Annual Average Total Emissions in SCCAB Through 2035, in the SCCAB region total VOC and NOx emissions are anticipated to decline from 2018 to 2035, although VOC emissions reach the lowest point in 2030 and start increasing by 2035.³

**Table 3.3-13
2016 AQMP Forecast of Annual Average Total Emissions in SCCAB Through 2035**

Year	Tons/Summer Day	
	VOC	NOx
<u>2018</u>	<u>34.72</u>	<u>35.23</u>
<u>2020</u>	<u>33.5</u>	<u>32.06</u>
<u>2025</u>	<u>32.44</u>	<u>26.57</u>
<u>2030</u>	<u>32.21</u>	<u>24.62</u>
<u>2035</u>	<u>32.27</u>	<u>23.93</u>

Source: Ventura County Air Pollution Control Board. 2017. Final 2016 Ventura County Air Quality Management Plan. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed February 6, 2020.

Within the VCAPCD, the majority of ROG emissions are anticipated to come from areawide sources, specifically consumer products. Moreover, the majority of NOx emissions are anticipated to come from mobile-source emissions, especially off-road equipment.

² MDAQMD. 2017. *Federal 75 ppb Ozone Attainment Plan (Western Mojave Desert Nonattainment Plan)*. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed November 5, 2019.

³ Ventura County Air Pollution Control Board. 2017. *Final 2016 Ventura County Air Quality Management Plan*. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed February 6, 2020.

As shown in **Table 3.3-14, Attainment Plan Forecast of Annual Average Total Emissions in MDAB in 2026**, in the MDAB region total NOx emissions are anticipated to decline from 2018 to 2026, although VOC emissions are anticipated to remain similar from 2018 to 2026.^{4,5} It should be noted that the AVAQMD and the MDAQMD regulate different portions of the MDAB, however review of their Federal 8-Hour Ozone Attainment Plans demonstrates that the projected emission estimates for VOC and NOx are the same.

**Table 3.3-14
Attainment Plan Forecast of Annual Average Total Emissions in MDAB Through 2026**

Year	Tons/Day	
	VOC	NOx
2018	38.82	83.40
2020	38.49	80.29
2023	38.61	72.24
2026	38.67	68.56

Source: Antelope Valley Air Quality Management Plan. 2017. AVAQMD Federal 8-hour Ozone Attainment Plan. Available online at: http://www.scag.ca.gov/programs/Documents/AQMPSIP/AVAQMD_2017SIP.pdf, accessed February 6, 2020.

Mojave Desert Air Quality Management Plan. 2017. MDAQMD Federal 8-Hour Ozone Attainment Plan. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed February 7, 2020.

Review of the projected emissions demonstrates that the largest emitters of NOx emissions within the MDAB are HDDT and train traffic. Emissions from these sources are expected to decline into 2016, however these sources remain the largest contributor to area-wide NOx emissions.

As shown in **Table 3.3-15, 2018 Maintenance Plan Forecast of Annual Average Total Emissions in**

⁴ Antelope Valley Air Quality Management Plan. 2017. AVAQMD Federal 8-hour Ozone Attainment Plan. Available online at: http://www.scag.ca.gov/programs/Documents/AQMPSIP/AVAQMD_2017SIP.pdf, accessed February 6, 2020.

⁵ Mojave Desert Air Quality Management Plan. 2017. MDAQMD Federal 8-Hour Ozone Attainment Plan. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed February 7, 2020.

SSAB in 2030, in the SSAB region’s total PM10 emissions are anticipated to slightly increase from 2020 to 2030.⁶

Table 3.3-15
2018 Maintenance Plan Forecast of Annual Average Total Emissions in SSAB Through 2030

<u>Year</u>	<u>PM10 (tons/day)</u>
<u>2020</u>	<u>284.99</u>
<u>2021</u>	<u>285.19</u>
<u>2022</u>	<u>283.84</u>
<u>2023</u>	<u>284.44</u>
<u>2024</u>	<u>284.66</u>
<u>2025</u>	<u>284.88</u>
<u>2026</u>	<u>285.02</u>
<u>2027</u>	<u>285.24</u>
<u>2028</u>	<u>285.48</u>
<u>2029</u>	<u>285.71</u>
<u>2030</u>	<u>285.96</u>

Source: Imperial County Air Pollution Control District. 2018. Imperial County 2018 Resignation Request and Maintenance Plan for Particulate Matter Less than 10 Microns in Diameter. Available online at: <https://ww3.arb.ca.gov/planning/sip/planarea/imperial/sip.pdf>, accessed February 6, 2020.

According to the ICAPCD’s SIP, the largest sources of PM10 emissions is fugitive windblown dust and unpaved road dust. Emissions of both windblown dust and unpaved road dust are anticipated to remain stagnant from 2020 to 2030.

On page 3.3-57, table number in the first paragraph under the heading “On-Road Mobile Source Emissions” is revised as follows:

ROG, NOx, and CO emissions in every county are expected to decrease with implementation of the Plan (Table 3.3-1316, On-Road Mobile-Source Criteria Air Pollutant Emission by County – Existing Conditions [2019] vs Plan [2045]).

⁶ Imperial County Air Pollution Control District. 2018. Imperial County 2018 Resignation Request and Maintenance Plan for Particulate Matter Less than 10 Microns in Diameter. Available online at: <https://ww3.arb.ca.gov/planning/sip/planarea/imperial/sip.pdf>, accessed February 6, 2020.

On page 3.3-58, the table number is revised as follows:

Table 3.3-1316, On-Road Mobile-Source Criteria Air Pollutant Emissions by County- Existing Condition (2019) vs Plan (2045)

On page 3.3-58, the table number in the first full paragraph is revised as follows:

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, mobile-source emissions from airplane, train, and ship transportation sources have decreased VOC, NO_x, CO, and PM_{2.5} emissions in the SCAB region and will continue to decrease to 2031,⁷ see **Table 3.3-1417, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB.**

On page 3.3-59, the table number is revised as follows:

Table 3.3-1417, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB

On page 3.3-59, table number in the second paragraph is revised as follows:

As shown in **Table 3.3-1417**, emissions from off-road mobile VOC, NO_x, CO, and PM_{2.5} emissions within the SCAB region are anticipated to decrease.

On page 3.3-59, the following text is added following the last paragraph before the subsection “Stationary Sources”:

VCAPCD

According to the VCAPCD’s Final 2016 AQMP, the total mobile sources are anticipated to decrease substantially from 2018 to 2035. Off-road mobile sources of NO_x and VOC emissions are anticipated to decrease by approximately 2 and 1 tons/summer day from 2018 to 2035, respectively, see **Table 3.3-18, AQMP Forecast of Annual Average Off-Road Mobile Source in SCCAB.**

⁷ SCAG acknowledges that AQMD, nor the other air districts in the region, has not identified emissions beyond 2031 (except the VCAPCD that estimated emissions until 2035). However, due to the overall downward trajectory and the substantial state requirements, it is assumed that emissions will continue to decline through 2045.

Table 3.3-18
2016 AQMP Forecast of Annual Average Off-Road Mobile Sources in SCCAB

<u>Year</u>	<u>Tons/Summer Day</u>	
	<u>VOC</u>	<u>NOx</u>
<u>2018</u>	<u>6.97</u>	<u>7.69</u>
<u>2020</u>	<u>6.63</u>	<u>7.25</u>
<u>2025</u>	<u>6.12</u>	<u>6.27</u>
<u>2030</u>	<u>5.91</u>	<u>5.83</u>
<u>2035</u>	<u>5.94</u>	<u>5.74</u>

Source: Ventura County Air Pollution Control Board. 2017. Final 2016 Ventura County Air Quality Management Plan. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed February 6, 2020.

As shown in **Table 3.3-18**, emissions from off-road mobile VOC and NOx emissions within the SCCAB region are anticipated to decrease.

AVAQMD and MDAQMD

According to the AVAQMD and MDAQMD's *Federal 8-hour Ozone Attainment Plan*, VOC and NOx off-road emissions are anticipated to decrease by approximately 0.4 and 10 tons/day, respectively, within the MDAB from 2018 to 2026, see **Table 3.3-19, Attainment Plan Forecast of Annual Average Off-Road Mobile Sources in MDAB.**

Table 3.3-19
Attainment Plan Forecast of Annual Average Off-Road Mobile Sources in MDAB

<u>Year</u>	<u>Tons/Day</u>	
	<u>VOC</u>	<u>NOx</u>
<u>2018</u>	<u>4.64</u>	<u>25.56</u>
<u>2020</u>	<u>4.38</u>	<u>22.82</u>
<u>2023</u>	<u>4.29</u>	<u>19.48</u>
<u>2026</u>	<u>4.21</u>	<u>15.49</u>

Source: Antelope Valley Air Quality Management Plan. 2017. AVAQMD Federal 8-hour Ozone Attainment Plan. Available online at: http://www.scag.ca.gov/programs/Documents/AQMPSIP/AVAQMD_2017SIP.pdf, accessed February 6, 2020; Mojave Desert Air Quality Management Plan. 2017. MDAQMD Federal 8-Hour Ozone Attainment Plan. Available online at: https://www3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed February 7, 2020.

As shown in **Table 3.3-19**, emissions from off-road mobile VOC and NOx emissions within the MDAB region are anticipated to decrease.

ICAPCD

Review of the ICAPCD's 2018 PM10 Plan, PM10 emissions are anticipated to increase from off-road mobile sources from 2020 to 2030, see **Table 3.3-20, 2018 Maintenance Plan Forecast of Annual Average Off-Road Mobile Sources in SSAB.**

**Table 3.3-20
2018 Maintenance Plan Forecast of Annual Average Off-Road Mobile Sources in SSAB**

Year	PM10 (tons/day)
<u>2020</u>	<u>1.04</u>
<u>2021</u>	<u>1.04</u>
<u>2022</u>	<u>1.04</u>
<u>2023</u>	<u>1.55</u>
<u>2024</u>	<u>1.55</u>
<u>2025</u>	<u>1.55</u>
<u>2026</u>	<u>1.56</u>
<u>2027</u>	<u>1.57</u>
<u>2028</u>	<u>1.57</u>
<u>2029</u>	<u>1.58</u>
<u>2030</u>	<u>1.59</u>

Source: Imperial County Air Pollution Control District. 2018. Imperial County 2018 Resignation Request and Maintenance Plan for Particulate Matter Less than 10 Microns in Diameter. Available online at: <https://www3.arb.ca.gov/planning/sip/planarea/imperial/sip.pdf>, accessed February 6, 2020.

As shown in **Table 3.3-20**, PM10 emissions from off-road mobile sources is anticipated to increase by approximately 0.55 tons/day in the SSAB.

On page 3.3-59, the first paragraph under the subheading “Stationary Sources” was revised as follows:

According to the SCAQMD 2016 AQMP, when compared to the 2012 AQMP, stationary-source emissions from NOx will decrease in the SCAB region by approximately 17%. All other pollutants from stationary sources are anticipated to increase by 2031, see **Table 3.3-1521, AQMP Forecast of Annual**

Average ~~Off-Road Mobile~~ Stationary Source Emissions in SCAB.

On page 3.3-59, the table number from the second paragraph under the subheading “Stationary Sources” was revised as follows:

As shown in **Table 3.3-1521**, stationary source emissions from all criteria air pollutant, except NOx are anticipated to increase when 2019 conditions are compared to 2031.

On page 3.3-60, the table number is revised as follows:

Table 3.3-1521, AQMP Forecast of Annual Average Stationary Source Emissions in SCAB

On page 3.3-60, the following text is added following Table 3.3-15:

VCAPCD

According to the VCAPCD’s Final 2016 AQMP, stationary source emissions are anticipated to increase from 2018 to 2035, see Table 3.3-22, AQMP Forecast of Annual Average Stationary Sources in SCCAB.

**Table 3.3-22
AQMP Forecast of Annual Average Stationary Sources in SCCAB**

Year	Tons/Summer Day	
	VOC	NOx
2018	8.54	1.89
2020	8.67	1.87
2025	8.82	1.88
2030	8.95	1.89
2035	9.12	1.92

Source: Ventura County Air Pollution Control Board. 2017. Final 2016 Ventura County Air Quality Management Plan. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>, accessed February 6, 2020.

As shown in Table 3.3-22, VOC and NOx stationary source emissions within the SCCAB region are anticipated to increase by approximately 0.58 and 0.03 tons/summer day.

AVAQMD and MDAQMD

According to the AVAQMD and MDAQMD’s Federal 8-hour Ozone Attainment Plan, VOC and NOx off-road emissions are anticipated to decrease by approximately 0.4 and 10 tons/day, respectively, within the MDAB from 2018 to 2026, see Table 3.3-23, Attainment Plan Forecast of Annual Average

Stationary Sources in MDAB.

Table 3.3-23
Attainment Plan Forecast of Annual Average Stationary Sources in MDAB

<u>Year</u>	<u>Tons/Day</u>	
	<u>VOC</u>	<u>NOx</u>
<u>2018</u>	<u>14.99</u>	<u>34.88</u>
<u>2020</u>	<u>15.7</u>	<u>37.48</u>
<u>2023</u>	<u>16.53</u>	<u>39.86</u>
<u>2026</u>	<u>17.09</u>	<u>41.48</u>

Source: Antelope Valley Air Quality Management Plan. 2017. AVAQMD Federal 8-hour Ozone Attainment Plan. Available online at: http://www.scag.ca.gov/programs/Documents/AOMPSIP/AVAQMD_2017SIP.pdf, accessed February 6, 2020.

Mojave Desert Air Quality Management Plan. 2017. MDAQMD Federal 8-Hour Ozone Attainment Plan. Available online at: https://ww3.arb.ca.gov/planning/sip/planarea/wmdaqmp/2016sip_mdplan.pdf, accessed February 7, 2020.

As shown in **Table 3.3-23**, VOC and NOx stationary source emissions within the MDAB region are anticipated to increase by approximately 2.1 and 6.6 tons/day.

ICAPCD

Review of the ICAPCD's 2018 PM10 Plan, PM10 emissions are anticipated to increase from stationary sources from 2020 to 2030, see **Table 3.3-24, 2018 Maintenance Plan Forecast of off-road mobile Annual Average Off-Road Mobile Sources in SSAB.**

Table 3.3-24
2018 Maintenance Plan Forecast of Annual Average Off-Road Mobile Sources in SSAB

<u>Year</u>	<u>PM10 (tons/day)</u>
<u>2020</u>	<u>4.75</u>
<u>2021</u>	<u>4.89</u>
<u>2022</u>	<u>5.03</u>
<u>2023</u>	<u>5.17</u>
<u>2024</u>	<u>5.31</u>
<u>2025</u>	<u>5.46</u>
<u>2026</u>	<u>5.6</u>
<u>2027</u>	<u>5.75</u>
<u>2028</u>	<u>5.89</u>
<u>2029</u>	<u>6.06</u>
<u>2030</u>	<u>6.21</u>

Source: Imperial County Air Pollution Control District. 2018. Imperial County 2018 Resignation

Request and Maintenance Plan for Particulate Matter Less than 10 Microns in Diameter. Available online at: <https://www3.arb.ca.gov/planning/sip/planarea/imperial/sip.pdf>, accessed February 6, 2020.

As shown in **Table 3.3-24**, PM10 emissions from stationary sources are anticipated to increase by approximately 1.46 tons/day in the SSAB.

On page 3.3-60, the first paragraph under the sub-section “Summary” is revised as follows:

Total emissions in the SCAB region (as indicated in 2016 AQMP) and likely across the SCAG region are expected to generally decline through at least 2031 except for small increases in PM 2.5 and SO_x (**Table 3.3-12**). Total NO_x and VOC emissions in the SCCAB and MDAB regions are expected to decline through at least 2035 and 2026, respectively (**Table 3.3-13** and **Table 3.3-14**). Additionally, PM10 emissions in the SSAB region are expected to increase slightly through at least 2030 (**Table 3.3-15**). SCAG is responsible for assessing on-road mobile source emissions through 2045. In general, in 2045, when compared to existing conditions, on-road mobile-source PM2.5 would increase in Imperial, Riverside, and San Bernardino Counties and mobile-source PM10 would increase in Imperial, Orange, Riverside, and San Bernardino Counties due to increasing traffic (see **Table 3.3-1316**).

On page 3.3-63, the last paragraph is revised as follows:

Implementation of Connect SoCal, when compared to existing conditions, would decrease on-road mobile-source ROG and NO_x emissions (**Table 1-1316, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**). Additionally, within the SCAB area NO_x emissions are anticipated to decrease through at least 2031 from off-road vehicle and stationary source (**Table 3.3-1417, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB**, and **Table 3.3-1521, AQMP, Forecast of Annual Average Stationary Source Emissions in SCAB**). Through at least 2031, ROG emissions are expected to decrease from off-road vehicle emissions (**Table 3.3-1417, AQMP Forecast of Annual Average Off-Road Mobile Emissions in SCAB**) but will increase from stationary source (**Table 3.3-1521, AQMP Forecast of Annual Average Stationary Source Emissions in SCAB**). Overall, the total ROG and NO_x emissions from on-road, off-road vehicle, and stationary sources are expected to decrease in the SCAB area through at least 2031 (**Table 3.3-12, 2016 AQMP Forecast of Annual Average Total Emissions in SCAB Through 2031**). Moreover, VOC and NO_x emissions in the SCCAB and the MDAB are expected to decline from off-road mobile and stationary sources through at least 2035 and 2026, respectively (**Table 3.3-18, AQMP Forecast of Annual Average Off-Road Mobile Sources in SCCAB; Table 3.3-22, AQMP Forecast of Annual Average Stationary Sources in SCCAB; Table 3.3-19, Attainment Plan Forecast of Annual Average Off-Road Mobile Sources in MDAB; and Table 3.3-23, Attainment Plan Forecast of Annual Average Stationary Sources in MDAB**). Overall, the

total ROG and NOx emissions from on-road, off-road vehicle, and stationary sources are expected to decrease in SCCAB and MDAB (Table 3.3-13, 2016 AQMP Forecast of Annual Average Total Emissions in SCCAB Through 2035 and Table 3.3-14, Attainment Plan Forecast of Annual Average Total Emissions in MDAB Through 2026). SCAB was re-designated as in attainment of federal standards for CO in June 2017 and the last exceedance of state standards within the region for CO was in 2015. CO presents a significant health risk as it can interfere with oxygen transport within the body. Compared to existing conditions, mobile-source CO emissions in the future with implementation of Connect SoCal would decrease between now and 2045 despite increasing traffic, as a result of stringent emissions controls. (Table 3.3-13~~16~~, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Condition [2019] vs Plan [2045]).

On page 3.3-64, the table number in the first full paragraph is revised as follows:

Compared to existing conditions, mobile-source SOx emissions would not change substantially despite increasing traffic (Table 3.3-13~~16~~, On-Road Mobile-Source Criteria Air Pollutant Emissions by Country – Existing Conditions [2019] vs Plan [2045]).

On page 3.3-67, PMM-AQ-1 is revised as follows:

- o) Develop a traffic plan to minimize community impacts as a result of traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- q) ~~Require projects within 500 feet of residences, hospitals, or schools to use Tier 4 equipment for all engines above 50 horsepower (hp) unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). In the event that construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the~~

manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.

- r) Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
- s) Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.⁸
- t) Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
- u) Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
- v) As applicable for airport projects, the following measures should be considered:
 - a. Considering operational improvements to reduce taxi time and auxiliary power unit usage, where feasible. Additionally, consider single engine taxing, if feasible as allowed per Federal Aviation Administration guidelines.
 - b. Set goals to achieve a reduction in emissions from aircraft operations over the lifetime of the proposed project.
 - c. Require the use of ground service equipment (GSE) that can operate on battery-power. If electric equipment cannot be obtained, require the use of alternative fuel, the cleanest gasoline equipment, or Tier 4, at a minimum.

⁸ South Coast Air Quality Management District. *AB 617 Community Air Initiatives*. Available online at: <http://www.aqmd.gov/nav/about/initiatives/community-efforts/environmental-justice/ab617-134>, accessed February 7, 2020.

w) As applicable for port projects, the following measures should be considered:

- a. Develop specific timelines for transitioning to zero emission cargo handling equipment (CHE).
- b. Develop interim performance standards with a minimum amount of CHE replacement each year to ensure adequate progress.
- c. Use short side electric power for ships, which may include tugboats and other ocean-going vessels or develop incentives to gradually ramp up the usage of shore power.
- d. Install the appropriate infrastructure to provide shore power to operate the ships. Electrical hookups should be appropriately sized.
- e. Maximize participation in the Port of Los Angeles' Vessel Speed Reduction Program or the Port of Long Beach's Green Flag Initiation Program in order to reduce the speed of vessel transiting within 40 nautical miles of Point Fermin.
- f. Encourage the participation in the Green Ship Incentives.
- g. Offer incentives to encourage the use of on-dock rail.

x) As applicable for rail projects, the following measures should be considered:

- a. Provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.

y) Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.

z) Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.

- a. Disclose potential health impacts to prospective sensitive receptors from living in close proximity to freeways or other sources of air pollution and the reduced effectiveness of air filtration systems when windows are open or residents are outside.
- b. Identify the responsible implementing and enforcement agency to ensure that enhanced

- filtration units are installed on-site before a permit of occupancy is issued.
 - c. Disclose the potential increase in energy costs for running the HVAC system to prospective residents.
 - d. Provide information to residents on where MERV filters can be purchased.
 - e. Provide recommended schedule (e.g., every year or every six months) for replacing the enhanced filtration units.
 - f. Identify the responsible entity such as future residents themselves, Homeowner’s Association, or property managers for ensuring enhanced filtration units are replaced on time.
 - g. Identify, provide, and disclose ongoing cost-sharing strategies, if any, for replacing the enhanced filtration units.
 - h. Set criteria for assessing progress in installing and replacing the enhanced filtration units; and
 - i. Develop a process for evaluating the effectiveness of the enhanced filtration units.
- aa) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities

On page 3.3-68, the table number in the second full paragraph is revised as follows:

Mobile-source particulate matter emissions would remain the same or decrease from existing conditions for all other pollutants (see **Table 3.3-~~13~~16, On-Road Mobile-Source Criteria Air Pollutant Emissions by County – Existing Conditions [2019] vs Plan [2045]**).

On page 3.3-76, the table number in the first full paragraph is revised as follows:

However, as shown in **Table 3.3-~~16~~25**, cancer risk would decrease considerably in the future, and local jurisdictions are requiring more robust air filtration and other ways of reducing exposure to existing sources of pollutants in particular proximity to freeways (see above discussion regarding the City of Los Angeles).

On page 3.3-77, the table number in the first full paragraph is revised as follows:

As shown on **Table 3.3-1425, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk** (also see **Appendix 3.3**), the maximum 30-year exposure to residential cancer risk for each transportation segment is significantly reduced when compared to existing conditions.

On page 3.3-78, the table number is revised as follows:

Table 3.3-1425, Summary Maximum Exposed Individual Residential 30-Year Exposure Cancer Risk

On page 3.3-78, the table number in the first paragraph is revised as follows:

As demonstrated in **Table 3.3-1425**, six of the transportation segments under the No Project scenario would have lower cancer risk than under the Plan.

Biological Resources

On page 3.4-58, under the heading “Orange County” the text is updated as follows:

The Resources Element of the Orange County General Plan has established one goal and one policy related to biological resources.⁹ The one goal and one supporting policy relevant to SCAG projects provide protection to wildlife, plants and vegetation communities.

The Orange County Central-Coastal NCCP/HCP is one of the first regional HCPs developed in the country. It represents a voluntary, collaborative planning effort among a variety of partnerships having both conservation and development interests. Its purpose is to provide regional protection and recovery of multiple species and habitat while allowing compatible land use and appropriate development. The Plan was approved in 1996 and has a planning area of 208,000 acres, and covers 39 species, including six federally listed species. Habitat and focal species covered under the plan include: coastal sage scrub, grasslands, riparian, coastal California gnatcatcher, coastal cactus wren, and orange-throated whiptail.

⁹ Orange County Land Use Planning and Subdivision Services. 2005. *Orange County General Plan 2005: Chapter 6: Resources Element*. P. VI-32. Available online at: <http://ocplanning.net/civicax/filebank/blobdload.aspx?blobid=40235>, accessed January 10, 2019.

On Page 3.4-71, Mitigation Measure SMM BIO-2 has been revised:

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors. SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat. The RAMP will be supplemental initiative to regional conservation and mitigation banks and other approaches by evaluating, advocating and highlighting projects that support per capita VMT reduction.

On page 3.4-72, PMM-BIO-1(d) is updated as follows:

Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or ~~non~~-native habitat wherever feasible, so as to avoid or minimize impacts to these species.

On page 3.4-85, PMM-BIO-3(d) is revised as follows:

Where avoidance is determined to be infeasible and proposed projects' impacts exceed an existing Nationwide Permit (NWP) and/or California SWRCB-certified NWP, or applicable County Special Area Management Plan (SAMP), the lead agency should provide USACE and SWRCB (where applicable) an alternative analysis consistent with the Least Environmentally Damaging Practicable Alternatives in this order of priorities...

On page 3.4-90, PMM-BIO-4(e) is updated as follows:

Prohibit construction activities with 300 ~~250~~ feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.

On page 3.4-90, PMM-BIO-4(m) is updated as follows:

Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Retrofitting of existing infrastructure in project areas should also be considered for wildlife crossings for purposes of mitigation.

On page 3.4-90, PMM-BIO-4(q) is added:

Incorporate Federal Highway Administration guidance (FHA-DOT 2015) as appropriate including best management practices to benefit pollinators with a focus on native plants.

Cultural Resources

On page 2.5-35 Mitigation Measure SMM CULT-1 has been updated as follows:

SMM CULT-1: Impacts to cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications¹; and direct technical assistance efforts such as Toolbox Tuesday series and sharing of associated online Training materials. SCAG shall consult with resource agencies such as the National Park Service, Office of Historic Preservation, and Native American Heritage Commission, and with Native American tribes¹⁰, to identify opportunities for early and effective consultation to identify archaeological sites, historical resources, and cemeteries to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

On page 2.5-37 Mitigation Measure PMM CULT-1 has been updated as follows:

h. During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. ~~In the event the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources.~~ Survey (s) shall be conducted where the records indicate that no previous survey has been

¹⁰ Note that no confidential cultural or tribal cultural resource location information will be housed in SCAG's GIS Database. All regulations pertaining to cultural resources site location confidentiality will be respected.

conducted, or if a survey has not been conducted within the past 10 years. If tribal resources are identified during tribal outreach, consultation, or the record search, a Native American representative traditionally affiliated with the project area, as identified by the NAHC, shall be given the opportunity to provide a representative or monitor to assist with archaeological surveys.

i. If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency in consultation with consulting tribes, where appropriate, and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Archaeological materials collected from a significant resource should be curated with a recognized scientific or educational repository. Should the project require extended Phase I testing, Phase II evaluation, or Phase III data recovery, a Native American representative traditionally affiliated with the project area, as indicated by the NAHC, shall be given the opportunity to provide a representative or monitor to assist with the archaeological assessments. The long-term disposition of archaeological materials collected from a significant resource should be determined in consultation with the affiliated tribe(s), where relevant; this could include curation with a recognized scientific or educational repository, transfer to the tribe, or respectful reinternment in an area designated by the tribe.

j. In cases where the project area is developed and no natural ground surface is exposed, sensitivity for subsurface resources should be assessed based on review of literature, geology, site development history, and consultation with tribal parties. ~~If a records search~~ this archaeological desktop assessment indicates that the project is located in an area sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, the project should retain an archaeological monitor and, in the case of sensitivity for tribal resources, a tribal monitor, to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The archaeological

monitor should be supervised by an archaeologist meeting the SOI PQS.

- k. Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated.
- l. Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant, and tribal consultation can be conducted, in the case of tribal resources. If the archaeologist determines that the discovery is significant, ~~it should be~~ its long-term disposition should be determined in consultation with the affiliated tribe(s); this could include curation with a recognized scientific or educational repository, transfer to the tribe, or respectful reinterment in an area designated by the tribe.

On page 3.5-42, Mitigation Measure PMM CULT-2 is revised as follows

PMM CULT-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.
- b. If any discovered remains are of Native American origin as determined by the county Coroner, an experienced osteologist, or another qualified professional:
 - Contact the County Coroner to contact the NAHC to designate and notify a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human

remains. In some cases, it is necessary for the Lead Agency, qualified archaeologist, or developer to also reach out to the NAHC to coordinate and ensure notification in the event the Coroner is not available.

Greenhouse Gases

On page 3.8-1, the nitrous oxide abbreviation is revised as follow:

The six major GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (~~NO₂~~N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs).

On page 3.8-1, the definition for “Greenhouse Gases” is revised to delete the words “thought to be linked” from the third sentence.

On page 3.8-2 and throughout the document, the nitrous oxide abbreviation is revised from ~~NO₂~~ to N₂O

In the first paragraph on page 3.8-5, is revised to remove the words “significant” and “have caused or will”

In the first paragraph under section “Existing Conditions” on page 3.8-5, the sentence is revised to add the word “longwave” to describe infrared radiation.

In the first paragraph on page 3.8-6, the paragraph below is revised as follows:

These feedback loops include, but are not limited to: loss of sea ice, which reflects heat back into the atmosphere rather than the ocean, causing further melting; the melting of permafrost, which would release new methane emissions into the atmosphere; and the cooling effects of sulfate pollution in the atmosphere, the loss of which would lead to additional warming. In California, the average maximum daily temperature is projected to increase by 5.6°F to 8.8°F, depending on the GHG emission reductions taken by 2100. Climate change within the state is expected to make forests more susceptible to wildfires, lead to complete beach erosion in 31 to 67 percent of Southern California beaches by the end of the century, increases in heat-related deaths, increases in residential electricity demand, increased vulnerability in the state’s agriculture, and degradation of coastal and marine environments. Other
~~a~~Adverse impacts from global climate change worldwide and in California may include...

On page 3.8-6, the second bullet is revised as follows:

Since the early 1970s, glacier mass loss and ocean thermal expansion from warming together explain about 75% of the observed global mean sea level rise. Over the period 1993 to 2010, global mean sea level rise is consistent with the sum of the observed contributions from ocean thermal expansion due to warming from changes in glaciers, Greenland ice sheet, Antarctic ice sheet, and land water storage. Sea level in California has risen approximately 7 inches from 1900 to 2005, according to the National Climate Assessment. In California, glaciers in the Sierra Nevada have retreated dramatically. From the beginning of the twentieth century to 2014, some of the largest glaciers have lost an average of about 70 percent of their area, with losses ranging from about 50 to 85 percent.

On page 3.8-6, the fourth bullet is revised as follows:

Declining Sierra snowpack levels, ~~which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years~~ the mean snow water equivalent declines to less than two-thirds of its historical average by 2050 and decline by less than half of the historical medium by 2100.

On page 3.8-6, footnote 10 is revised as follows:

California's Office of Planning and Research. 2019. *California's Fourth Climate Change Assessment*. Available online at: <https://www.energy.ca.gov/sites/default/files/2019-07/Statewide%20Reports-%20SUM-CCCA4-2018-013%20Statewide%20Summary%20Report.pdf>, accessed February 18, 2020. ~~California Environmental Protection Agency, Climate Action Team. 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.*~~

On page 3.8-8, the last sentence in the first paragraph is revised to replace "from" with "by."

On page 3.8-8, the first full paragraph is revised as follows:

Though no single wildfire can be attributed solely to climate change, evidence shows that the increase in average temperatures statewide is creating conditions more prone to wildfires. Over the past five decades, fire occurring during dry Santa Ana wind conditions and non-Santa Ana wind conditions spread three times faster, occurred closer to urban areas, and burned in areas with greater housing values. Non-Santa ana condition fires were more sensitive to age-dependent fuels, often occurred in higher elevation forests, and last for extended periods of time. The area burned in non-Santa Ana condition and Santa Ana condition fires is anticipated to increase by 77% and 64% by the mid-21st century, respectively.²² Southern California has warmed about three degrees Fahrenheit in the last

century, and every additional increment of warming speeds up evaporation, dries out soil and vegetation, and increases the amount of fuel available for a wildfire.²³

On page 3.8-8, the second full paragraph is revised as follows:

As temperatures warm and GHG concentrations increase, more carbon dioxide dissolves in the ocean, making it more acidic. More acidic ocean water affects a wide variety of marine species, including species that people rely on for food.²⁵ Additionally, climate change is resulting in the alteration of marine habitats that may result in shifts in species distribution from lower to higher latitudes, shifts from near-surface to deeper waters, declines in calcifying species, and increases in the abundance of warm-water species. Local adaption may also occur, however environmental changes might presently occur faster than species with long generation times are able to adopt, while organisms with short generation times, such as microbes, are better suited to keep pace with environmental changes.²⁶

On page 3.8-9, the first paragraph is revised as follows:

These extreme precipitation events, together with the rising snowline, often cause devastating floods in major river basins (e.g., California's Russian River). According to the *Santa Ana Watershed Basin Study*, climate change may result in increased flash flooding and inland flooding, increased coastal flooding, inundation of coastal community storm drains, and damage to coastal community sewer system from sea level rise. Sea level rise in Southern California is expected to rise by 1.5 to 12 inches by 2030, 5 to 24 inches by 2050, and 16 to 66 inches by 2100 thereby making the coastal areas more vulnerable to flooding.²⁸ Looking ahead, the frequency and severity of atmospheric rivers on the U.S. West Coast will increase due to higher atmospheric water vapor that occurs with rising temperatures, leading to more frequent flooding.^{29, 30}

On page 3.8-11, under Table 3.8-2, the following paragraph was included:

Table 3.8-2 represents the annual GHG emissions produced by each country. However, looking at the cumulative CO₂ emissions emitted from each of these countries from 1850 to 2011 demonstrates that the United States has emitted approximately 27% of the world's total GHG emissions emitted. The European Union has emitted approximately 25% followed by China which has emitted approximately 11% of the world's total GHG emissions. Russia, India, and Indonesia have emitted 8%, 3%, and 1%, respectively. Therefore, while China emitted approximately twice as many emissions as the United States in 2014, the United States that cumulatively emitted over twice as much as China from 1850 to 2011.⁴³

On page 3.8-14, the following additions were added to the first paragraph under subsection “SCAG Region”:

Transportation emissions accounted for approximately 38 percent of total emissions in the SCAG region, compared to 26 percent of total emissions in the United States in 2008.⁵⁴ According to CARB, statewide emissions from transportation sources were relatively constant from 2002 to 2007, declined through 2013, then increased by 9.0 MMT CO₂e (or 6 percent) from 2013 to 2017. Emissions from gasoline used in on-road vehicles are the main driver of that increase. It is expected that the SCAG region followed similar trends.

On page 3.8-16, the “Public Health” section was revised as follows:

As a result of extreme heat days there may be longer and more severe droughts. Extreme heat can lead to excessive drying of soil and vegetation as well as melting of California’s Sierra snowpack. During the next few decades, the projected average temperature is expected to risk between 1°F and 2.3°F in California. Imperial County’s historical average temperature is approximately 73.4°F. By 2099, Imperial County is expected to have an average temperature increase of 3.4°F to 6.4°F. Los Angeles County’s historical average temperature is approximately 65.2°F. By 2099, Los Angeles County is expected to have an average temperature increase of 3.6°F to 6.1°F. Orange County’s historical average temperature is approximately 61.3°F. By 2099, Orange County is expected to have an average temperature increase similar to Los Angeles County of 3.6°F to 6.1°F. Riverside County’s historical average temperature is approximately 63.5°F. By 2099, Riverside County is expected to have an average temperature increase of 3.7°F to 6.5°F. San Bernardino County has a historical average temperature of 64.3°F and by 2099 the average temperature will increase by 3.8°F to 6.7°F. Finally, Ventura County has a historical average temperature of 60.0°F. By 2099, Ventura County’s average temperature will increase by 3.6°F to 6.0°F, like Los Angeles and Orange Counties. San Bernardino County is expected to see the greatest increase in average temperature; however, Imperial County will remain the warmest County in the SCAG region.⁵⁸

Climate change can also lead to sea level rise. Orange County has the greatest risk for inundation within the SCAG region, with 3.6 percent of the population in an inundation zone. Los Angeles and Ventura Counties have 1.6% and 0.17%, respectively, of their county population living within inundation zones. Sea level rise can lead to flooding in these areas and can create important health consequences such as contaminating drinking water or respiratory issues from mold in flood-damaged homes.

Finally, climate change can lead to food insecurity. Climate change is expected to have global impacts on food production and distribution systems. These changes can cause an increase in food prices, making food less affordable and increases food insecurity, obesity, and malnutrition is economically constrained

households.

While all Californians are vulnerable to the health impacts of climate change, certain groups are more susceptible to extreme heat and weather events such as the young and the elderly. Additionally, those with chronic medical conditions, psychiatric illness, people taking multiple medications, people without means of evacuation (such as no access to private or public transportation, medically fragile people, and people living in institutions may be more susceptible to climate change. The size of vulnerable populations in California expected to increase in the coming decades, for example, the share of individuals ages 65 or older within the state will increase from 13 percent in 2010 to 19 percent in 2050.⁵⁹

The second bullet on page 3.8-16 is revised to replace the word “low” with “no.”

On page 3.8-17, the following bullet was added:

- Transitioning from use of flurochlorines in industry

On page 3.8-17, the following bullets were added to the list of climate adaptation solutions:

- Incorporate climate considerations in emergency planning efforts at all levels
- Enhance preparedness and coordination to address climate change impacts and inform emergency management policy
- Support and coordinate adaptation efforts across jurisdictions and policy areas to maximize community resilience
- Increase climate resiliency in low-income and disadvantaged communities
- Increase restoration and enhancement activities to increase climate resiliency of natural and working lands
- Prepare California for flooding
- Support regional groundwater management for drought resiliency
- Improve water storage capacity
- Protect and restore water resources for important ecosystems
- Require closer collaboration and coordination of land use and water planning activities to ensure

sustainable development

- Continue to assess community and ecosystem vulnerability to climate impacts
- Promote “cool streets” and parking lots
- Advance water management and energy efficiency in agricultural operations
- Improve transportation system resiliency
- Improve public health preparedness and emergency response

On page 3.8-17, the following sentence is revised as follows:

These actions take the form of climate action plans, general plan policies, Local Hazard Mitigation Plan (LHMPs), GHG reduction plans, sustainability plans, and ordinances.

On page 3.8-35, the following additions were made to the state regulatory framework:

Senate Bill 379

SB 379 (Jackson) was signed into law by Governor Jerry Brown on October 8, 2015 and requires the safety element of a city or county’s general plan to be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to that city or county. The update is required to include a set of goals, policies, and objectives based on a vulnerability assessment, identifying the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts.¹²³

Senate Bill 1000

SB 1000 (Leyva) was signed into law by Governor Jerry Brown on September 24, 2016 and requires planning agencies to review and revise the safety element of general plans in order to address flooding and fires. Additionally, the bill would add to the required elements of the general plan an environmental justice element, or related goals, policies, and objectives integrated in other elements, that identified disadvantages communities, as defined, within the area covered by the general plan of the city, county, or both should there be a disadvantaged community within its jurisdiction. The bill would require the general plan to identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities, such as, identify objectives and policies to promote civil engagement and identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.¹²⁴

Senate Bill 1035

SB 1035 (Jackson) was signed into law by Governor Jerry Brown on September 23, 2018 and requires the safety element of a general plan to be reviewed and revised as necessary to address climate adaption and resiliency strategies and would require, after these revisions, the planning agency to review and, if necessary, revise the safety element upon each revision of the housing element or local hazard mitigation plan, but not less than once every 8 years, to identify new information relating to flood and fire hazards and climate adaptation and resiliency strategies applicable to the city or county that was not available during the previous revision of the safety element.¹²⁵

On page 3.8-37, the following additions were made to the state regulatory framework:

Executive Order B-55-18

On September 10, 2018, Governor Brown issued Executive Order B-55-18 to establish a target of carbon neutrality in California by 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter. The EO calls on CARB to address this goal in future Scoping Plans, which affect other major sectors of California’s economy, including transportation, agriculture, development, industrial, and others.

On page 3.8-40, the following additions were made to the state regulatory framework:

Emergency Response Plan / Emergency Evacuation Plan

California updated its State of California Multi-Hazard Mitigation Plan in 2018.¹¹ The state is required to adopt a federally approved State Multi-Hazard Mitigation Plan to be eligible for certain disaster assistance and mitigation funding. The State Multi-Hazard Mitigation Plan is an evaluation of the hazards California faces and the strategies, goals, and activities the state will pursue to address these hazards. It:

- Documents statewide hazard mitigation planning in California,
- Describes strategies and priorities for future mitigation activities,
- Facilitates the integration of local and tribal hazard mitigation planning activities into statewide efforts, and

¹¹ California Governor’s Office of Emergency Services. 2019. State Hazard Mitigation Plan. Available online at: <https://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/state-hazard-mitigation-plan>, accessed July 29, 2019.

- Meets state and federal statutory and regulatory requirements.

All six SCAG counties and a number of cities within the SCAG region have completed LHMPs, although Ventura County is currently in the process of updating its documents. California Emergency Management Agency (Cal EMA) dictates that these plans must be updated every three years.¹³⁸ See Section 3.20, Wildlife, for an additional discussion of emergency response plans and emergency evacuation plans.

The following text is added to the end of the paragraph under the subheading Ventura County on page 3.8-49:

The County of Ventura is currently developing a Climate Action Plan (CAP) that is being integrated into its General Plan Update 2020-2040. It also contains General Plan Implementation Measures for GHG-reductions and General Plan Policies related to climate change. The Draft EIR for the CAP was publicly released on January 13, 2020. The General Plan Update contains General Plan Implementation Measures for GHG-reductions and General Plan Policies related to climate change.

On page 3.8-50, the following additions were made to the regional and local regulatory framework:

COG Climate Action/Climate Adaptation Plans

Councils of Governments (COGs) are regional agencies that can undertake any action in which their member cities and counties share in common. Although many COGs are formed to focus on transportation planning and programming, some COGs have been tasked by their local governments to address regional issues such as climate change. The South Bay Cities COG (SBCCOG) prepared their *Sub-Regional Climate Adaption Plan* on September 13, 2019 which will allow cities to assess and mitigate the extent to which climate change will negatively impact South Bay communities. The Climate Adaption Plan includes a Vulnerability Assessment for the sub-region and selected adaptation strategies designed to support cities in mitigating their climate risk through education, training, planning, and outreach.¹⁶⁵

On page 3.8-52, Table 3.8-4, California Jurisdictions Addressing Climate Change in the SCAG Region (2019), the line for City of Lakewood is changed to remove the second A.

Page 3.8-58, Table 3.8-4 California Jurisdictions Addressing Climate Change in the SCAG Region (2019), the line for Ventura County in the column for Climate Action Plan is changed from “A” (adopted) to “IP” (in progress).

Page 3.8-58, Table 3.8-4 the line for City of Indio is updated as follows: GHG Reduction Plan changed from “IP” to “A”, Climate Action Plan changed from “IP” to “A”, and General Plan Policy changed from “IP” to “A”.

On the last paragraph on page 3.8-63, the text is revised as follows to reflect the final numbers in the Connect SoCal Plan:

In order to assess the impacts of direct emissions as a result of Connect SoCal, the transportation emissions from on-road (light and medium duty vehicles, heavy duty vehicles, and buses) and other sources transportation (rail, aviation, and ocean-going vessels) were evaluated in **Table 3.8-5, Greenhouse Gas Emissions from All On-Road Vehicles in the SCAG Region**, and **Table 3.8-6, Greenhouse Gas Emissions from Other Transportation Sources in the SCAG Region**. **Table 3.8-7, Greenhouse Gas Emissions from All On-Road Vehicles and Other Transportation Sources in the SCAG Region**, provides a summary of **Tables 3.8-5 and 3.8-6** to demonstrate that the SCAG region will decrease mobile-source GHG emissions by approximately ~~12~~ 13 percent from 2019 to 2045.

On page 3.8-72, an additional item is added to Mitigation Measure PMM-GHG-1:

k) Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.

Land Use and Planning

The term “Livable Corridors” is defined after “Land Use Element” and before “Natural Lands” on page 3.11-2.

Livable Corridors: Livable corridors are arterial roadways where jurisdictions may plan for a combination of the following elements: high-quality bus frequency; higher density residential and employment at key intersections; and increased active transportation through dedicated bikeways.

The term “Neighborhood Mobility Areas” is defined after “Livable Corridors” on page 3.11-2.

Neighborhood Mobility Areas (NMAs): Neighborhood Mobility Areas are intended to provide sustainable transportation options for residents of the region who lack convenient access to high-frequency transit but make many short trips within their urban neighborhoods. NMAs are conducive to active transportation and include a “Complete Streets” approach to roadway improvements to encourage replacing single- and multi-occupant automobile use with biking, walking, skateboarding, neighborhood

electric vehicles and senior mobility devices.

On page 3.11-3, the definition for “Regional Housing Needs Assessment” is revised as follows:

Regional Housing Needs Assessment (RHNA): ~~Regional Housing Needs Assessment~~ ~~Quantifies~~ ~~Statutorily mandated state program that quantifies~~ the need for housing within each jurisdiction of the SCAG region based on population, household and employment growth projections. Jurisdictions ~~Communities~~ then address this need through the process of updating ~~completing~~ the housing elements of their General Plans.

The term “Urban Infill” is defined after “Urban Areas” and before “Vacant Land” on page 3.11-4.

Urban Infill: Urban Infill refers to building within unused and underutilized lands within existing development patterns in existing urban areas.

On the bottom of page 3.11-5, the following sentence is revised as follows:

Military lands are included in a separate category and include, but are not limited to, Barstow Marine Corps Logistics Base, Edwards Air Force Base, El Centro Naval Air Facility, Fort Irwin, Joint Forces Training Base-Los Alamitos, Los Angeles Air Force Base, March Air Reserve Base, Naval Warfare Assessment Station Corona, Naval Weapons Station Seal Beach, Point Mugu Naval Air Weapons Station, Twentynine Palms Marine Corps Combat Center, and Chocolate Mountains Aerial Gunnery Range.

In the first paragraph on page 3.11-12, the following sentence is removed for inaccuracy:

~~City and county general plans must be consistent with each other.~~

The fourth full paragraph on page 3.11-15 is revised as follows:

Multi-Family Residential (Attached units)

The term “multi-family units” is used to describe those housing units that are attached residences. This includes apartments, condominiums, and townhouses, even if townhomes are typically categorized as single-family units.

In the first paragraph on page 3.11-20, the sentence below is revised as follows:

In yet other instances, lands may be designated or zoned as open space or as agriculture but still allow for development of a single-family home.

In Table 3.11-4 on page 3.11-21, the number of acres of San Manuel tribal lands is revised as follows:

San Manuel	San Bernardino	1,124,673
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In the final paragraph on page 3.11-22, the sentence below is revised to describe how far inland is considered to be in the coastal zone:

Each local jurisdictional authority (city or county) with lands within the coastal zone (extending inland generally 1,000 yards from the mean high tide line of the sea) is required to develop, and comply with, a coastal management plan.

On page 3.11-32, a clarification is added to the following sentence:

The purpose of the housing element is to identify the community’s housing needs, as determined by the RHNA process, state the community’s goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs.

On page 3.11-38 reference to the following report is added to the regulatory framework:

South Coast AQMD Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning

The Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. The objective of the guidance document is to facilitate stronger collaboration between local governments and the South Coast AQMD to reduce community exposure to source-specific and cumulative air pollution impacts.

On page 3.11-43, under Impact LU-2, the sentence below is modified as follows:

Land use strategies included in the Plan aim to redistribute ~~focus~~ most of the new housing and job growth in high-quality transit areas... Land use strategies also seek to concentrate ~~focus~~ growth in other PGAs such as job centers and neighborhood mobility areas (NMAs) to maximize existing infrastructure and encourage infill development.

On page 3.11-45, the following sentence is clarified to define the term “smaller individual numbers.”

For example, while the Plan includes strategies for compact development and higher densities as a means to accommodate increased population in an efficient manner, many jurisdictions are planning for smaller populations individual numbers and may assume lower smaller densities.

On page 3.11-45, the following sentence is as follows:

It is possible that local general plans have not been updated to reflect the land use assumptions within the Plan, because jurisdictions do not have to change their general plans to be consistent with the SCS. ~~despite SCAG’s outreach and bottom up planning process for the reasons stated above.~~ As a result, there exists the potential for SCAG’s projected land use pattern to conflict with a local general plan ~~to conflict with SCAG’s projected land use pattern.~~

Noise

On page 3.13-39, the following is added to PMM NOISE-1:

y. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.

Population and Housing

On page 3.14-1, an addendum is added to the definition of “household” as follows:

A person living alone in a housing unit, or a group of unrelated people sharing a housing unit such as partners or roomers, is also counted as a household. There is no more than one household per housing unit.

On page 3.14-1, the following is added to the definition of “housing.”

Housing data presented herein represents the most recent, reliable, and representative data to describe current regional conditions at the time of publication of the NOP for the PEIR, January 23, 2019. In most instances, the most recent available data was for 2018 or 2019. For population, land use and related modeling analyses (air quality, transportation and noise), base year information is collected every four years as part of the Plan. The base year for the Plan is 2016. For purposes of the PEIR, 2019 data has been estimated based on an interpolation of 2016 to 2045 projections. Department of Finance is the source for housing data provided in this section.

On page 3.14-2, under the subheading “Population,” the American FactFinder is cited as footnote 1. Although the population data referenced in the sentence remains the same, the citation has been revised to 2018 to reflect the latest available population data:

¹ American FactFinder. ~~2018~~ ~~2017~~. 2018 ~~2017~~ *Population Estimates*. Available online at: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>, accessed ~~February 6, 2020~~ January 29, 2018.

Sources for Table 3.14-1, Population Growth in the SCAG Region (2000-2019 for Incorporated Cities and Unincorporated Areas), on Page 3.14-3, have been updated:

¹ ~~SCAG. 2016 Draft RTP.SCS. 3.14 Population, Housing, and Employment. Table 3.14.2-3 “Population Growth in the SCAG Region for 2000-2014.” Available online at: <http://scagrtpscsc.net/Pages/DRAFT2016PEIR.aspx>, accessed September 3, 2019. U.S. Census Bureau of Decennial Census 2010.~~
² ~~California Department of Finance (DOF). 2010. E-5 Population and Housing Estimates for Cities, Counties, and the State. January. Available online at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/>, accessed August 30, 2019. U.S. Census Bureau of Decennial Census 2010.~~

On page 3.14-5, in Table 3.14-2 on page 3.14-4, the source for Number of Households in 2010 and 2019, respectively, is revised as follows:

Source: ~~SCAG. 2019. U.S. Census Bureau Decennial Census 2010 and SCAG 2019 (interpolation).~~

Language regarding household size on Page 3.14-4, 2nd Paragraph has been updated:

Household size in the SCAG region (Incorporated Cities) increased between 2000 and ~~2018-19~~, from ~~3.16~~ 3.01 persons per household to ~~3.2~~ 3.09 persons per household, or an increase of the equivalent of an average of ~~0.04~~ 0.08 persons per household

On page 3.14-4, the first complete sentence on the page is revised as follows:

At a fundamental level, there is simply not enough housing for everyone who wants to live in the state in the type of housing unit they can afford in the jurisdiction they prefer.

Sources and data for Table 3.14-3, Households Size in the SCAG Region (persons) on Page 3.14-5 have been updated:

**Table 3.14-3
Household Size in the SCAG Region (Persons)**

County	2000¹	2018²	2000–2018 Change
Imperial	3.42 <u>3.33</u>	3.6 <u>3.54</u>	0.18 <u>0.21</u>
Los Angeles	3.14 <u>2.98</u>	3.0 <u>3.01</u>	-0.14 <u>0.03</u>
Orange	3.06 <u>3.00</u>	3.1 <u>3.03</u>	0.04 <u>0.03</u>
Riverside	3.09 <u>2.98</u>	3.3 <u>3.32</u>	0.21 <u>0.34</u>
San Bernardino	3.17 <u>3.15</u>	3.3 <u>3.38</u>	0.13 <u>0.23</u>
Ventura	3.11 <u>3.04</u>	3.1 <u>3.07</u>	-0.01 <u>0.03</u>
SCAG Region	3.16 <u>3.01</u>	3.2 <u>3.09</u>	0.04 <u>0.08</u>

Sources:
 1 ~~1~~ Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report. State of California, Department of Finance, E-8 Historical Population and Housing Estimates, 2000-2010 Report, by Year. Sacramento, California, November 2012 (U.S. Census 2000). Available online at <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/>
 2 ~~Southern California Association of Governments (SCAG). 2019. 2019 Local Profiles. Available online at: <https://www.scag.ca.gov/DataAndTools/Pages/LocalProfiles.aspx>, accessed September 3, 2019. State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019. Sacramento, California, May 2019. Available online at <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/>~~

Sources have been updated for Table 3.14-4, Poverty Rates in the SCAG Region (1990-2018), on Page 3.14-6:

~~1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report. U.S. Census Bureau. Decennial Census Poverty Data Tables for 1990, 2000, 2010. Available online at: <https://census.gov/topics/income-poverty/poverty/data/>, accessed March 12, 2020~~

Sources have been updated for Table 3.14-7, Unemployment Rates on Page 3.14-8:

~~1 Southern California Association of Governments (SCAG). 2016. 2016 RTP/SCS Program Draft Environmental Impact Report. State of California Employment Development Department. Database - Unemployment Rates (By County) Available Online at: labormarketinfo.edd.ca.gov/cgi/datanalysis/areaselection.asp, accessed March 12, 2020.~~

On page 3.14-8, the last paragraph of the page is updated as follows:

Growth Forecasts

In order to develop growth forecasts, SCAG encourages and utilizes the participation and cooperation of all local government partners within the SCAG region. SCAG uses a bottom-up planning process by which all local governments are informed of the Connect SoCal planning process and have clear and

adequate opportunities to provide input. Growth forecasts and land use updates for development under the Plan have been developed through this bottom-up local input process, reflecting the following guiding principles ~~approved by SCAG's Regional Council on August 1, 2019.~~

SCAG's Guiding Principles on Page 3.14-9 have been revised:

~~Principle #1: The draft plan forecast for Connect SoCal shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the employment, population and household growth projections derived from local input and previously reviewed and approved by SCAG's local jurisdictions. The draft plan growth forecast maintains these projected jurisdictional growth totals, meaning further growth is not reallocated from one local jurisdiction to another. Connect SoCal will be adopted at the jurisdictional level, and directly reflects the population, household and employment growth projects that have been reviewed and refined with feedback from local jurisdictions through SCAG's Bottom-Up Local Input and Envisioning Process. The growth forecast maintains these locally-informed projected jurisdictional growth totals, meaning future growth is not reallocated from one local jurisdiction to another.~~

~~Principle #2: The draft plan forecast at the Transportation Analysis Zone (TAZ) level is controlled to be within the density ranges of local general plans or input received from local jurisdictional in this most recent round of review. Connect SoCal's growth forecast at the Transportation Analysis Zone (TAZ) level is controlled to not exceed the maximum density of local general plans as conveyed by jurisdictions, except in the case of existing entitlements and development agreements.~~

~~Principle #3: For the purpose of determining consistency for California Environmental Quality Act (CEQA) streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan. For the purpose of determining consistency with Connect SoCal for California Environmental Quality Act (CEQA), grants or other opportunities, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency; SCAG may also evaluate consistency for grants and other resource opportunities; consistency should be evaluated utilizing the goals and policies of Connect SoCal and it's associated Program Environmental Impact Report (PEIR).~~

~~Principle #4: TAZ level data or any data at a geography smaller than the jurisdiction is included in the draft plan forecast only to conduct the required modeling analytical work and is therefore, only advisory and non-binding as SCAG's sub-jurisdictional forecasts are not formally adopted as part of the Plan. TAZ level data or any data at a geography small than the jurisdictional level has been utilized to conduct required modeling analysis and is therefore advisory only and non-binding, given that sub-jurisdictional~~

forecasts are not adopted as part of Connect SoCal. TAZ level data may be used by jurisdictions in local planning as they seem appropriate. There is no obligation by a jurisdiction to change its land use policies, General Plan, or regulations to be consistent with Connect SoCal.

Principle #5: SCAG will maintain communication with agencies that use SCAG's sub-jurisdictional level data to ensure that the "advisory and non-binding" nature of the data is appropriately maintained.

Page 3.14-14 in the last full paragraph on the page, the text is updated as follows:

As discussed above in the discussion of SB 375, state law requires preparation of a RHNA allocation plan every eight years. SCAG's 6th Cycle RHNA quantifies the regional need for housing and then allocates the regional need to each jurisdiction for a planning period between October 2021 and October 2029. Local jurisdictions are required to plan and zone to accommodate their respective RHNA allocation (housing units) by income categories through the process of updating the Housing Elements of their General Plans. ~~The RHNA does not necessarily encourage or promote growth, but rather allows communities to anticipate growth and address existing need, so that they can grow in ways that enhance quality of life, improve access to jobs, transportation and housing, and not adversely impact the environment.~~¹²

In the last paragraph of page 3.14-20, the sentence below is revised as follows:

SCAG holds growth projection numbers constant at the jurisdiction, county and regional level, meaning that as the distribution of population, housing and employment changes, the total numbers remain constant.

In the last paragraph on page 3.14-23, the sentence below is revised as follows:

Specifically, improved accessibility and connectivity potentially gained from transportation investments in the Plan could facilitate population and economic growth in areas of the region that are currently not developed or are underdeveloped and in areas not currently planned for the type of density the Plan proposes.

¹² SCAG. *Regional Housing Needs Assessment (RHNA) & Housing*. Available online at: <https://www.scag.ca.gov/programs/Pages/Housing.aspx>, accessed August 29, 2019.

In the second paragraph on page 3.14-27, the sentence below is revised as follows:

Supported by other public amenities and transit services, housing in these areas tends to cost more ~~command higher premiums~~ and may be attractive to more affluent residents and unaffordable for ~~to~~ current residents in these areas.

Parks and Recreation

On page 3.16-9, discussion of the parkland to resident ratio is revised as follows:

~~The Los Angeles County General Plan has established a standard of 4 acres of local parkland per 1,000 residents in the unincorporated areas and 6 acres of regional parkland per 1,000 residents of the total population in Los Angeles County. According to the General Plan (2015), the County has a substantial deficit in local parkland, providing approximately 0.6 acres of local parkland per 1,000 unincorporated residents but 7.02 acres of regional parkland per 1,000 residents (total), which is above the regional standard. According to the Los Angeles County Parks Needs Assessment (2016), there are 3.3 acres of local parkland per 1,000 residents, which is less than the 4.0 acres per 1,000 goal in the Los Angeles County General Plan. There are 86.2 acres of regional open space and natural areas per 1,000 people, which exceeds the goal of 6 acres of regional parkland per 1,000 in the Los Angeles County General Plan.~~

The first sentence on page 3.16-10 is corrected as follows:

Los Angeles County has 181 ~~177~~ County parks and 24 state parks, the most of any county in the SCAG region.

At the top of page 3.16-18, two new subsections are added as follows:

Los Angeles Countywide Parks and Recreation Needs Assessment

The Parks & Recreation Needs Assessment, adopted May 2016, documents existing parks and recreation facilities in cities and unincorporated communities and uses the data to determine the scope, scale, and location of park needs in Los Angeles County. The Parks & Recreation Needs Assessment also establishes new ways of understanding about parks, recreation, and open space by: considering parks as key infrastructure; using a new series of metrics to determine park needs; supporting a need-based allocation of funding for parks and recreation; and emphasizing community priorities and deferred maintenance projects. As part of the assessment, the Los Angeles County Department of Parks and Recreation collaborated with 86 cities.

Transit to Parks Strategic Plan

The Transit to Parks Strategic Plan by Metro presents a systematic vision for increasing access to parks and open space countywide. The goal is to find targeted, holistic ways to increase access to parks and open spaces, especially for communities of need. These communities, especially those that are not within walking distance or without convenient public transit to a park, are the focus of the Plan. Expanding access is a key priority for the region, as demonstrated in the Countywide Parks Needs Assessment, which highlights the lack of park and open space access in communities across the county, particularly for lower income, disadvantaged residents.

Transportation, Traffic and Safety

On page 3.17-55 footnote 75 is updated to remove the date from the link :

75 National Center for Sustainable Transportation. Induced Travel Calculator. Accessed at <https://blinktag.com/induced-travel-calculator/about.html>.

Tribal Cultural Resources

The following details regarding the tribal consultation process under AB 52 have been added to page 3.18-5:

On December 10, 2019, SCAG sent all parties on the NAHC list copies of the draft PEIR and the draft version of this technical report by mail. Two comments were received. The Santa Ynez Band of Chumash Indians Tribal Elders' Council replied in a letter dated December 27, 2019 and indicated that they requested no further consultation on the project; however, they requested that if supplementary literature reveals additional information, or if the scope of the work changes, they be notified. The San Manuel Band of Mission Indians responded in an email dated January 6, 2020 indicating that they had no concerns or comments regarding the project, but noted that the acreage of the San Manuel Reservation is actually 1,243.68 acres, not the 673 acres referenced from a Bureau of Indian Affairs source in the draft PEIR.

SCAG followed up with the five tribal parties who requested AB 52 consultation on the project via email on February 19, 2020 to confirm receipt of the December 2019 draft PEIR and technical report and to solicit input. A response was received from the San Manuel Band of Mission Indians, who referenced their January 2020 correspondence described above. The Gabrieleno Band of Mission Indians – Kizh Nation responded via email on March 3, 2020. The Fernandeno Tataviam Band of Mission Indians requested a consultation call to discuss their comments. The consultation conference call was held on

March 4, 2020. Jairo Avila of the Fernandeño Tataviam Band of Mission Indians relayed comments on the proposed mitigation measures for cultural and tribal cultural resources. A written comment letter detailing the comments was received on March 13, 2020. The mitigations measures were revised based on the input received from tribal parties. Follow up calls were placed to the Agua Caliente Band of Cahuilla Indians and the Jauneño Band of Mission Indians, Acjachemen Nation on March 3, 2020, but no additional comments were received. The results of the Native American outreach effort are further detailed in Appendix E. Copies of relevant correspondence are included in Confidential Appendix F.

On page 3.18-20 Mitigation Measure SMM TCR-1 is revised as follows:

SMM TCR-1: ~~Impacts to tribal cultural resources shall be minimized through cooperation, information sharing, and SCAG's ongoing regional planning efforts such as web-based planning tools for local governments including CA LOTS, and other GIS tools and data services, including, but not limiting to, Map Gallery, GIS library, and GIS applications; and direct technical assistance efforts and sharing of associated online Training materials.~~ SCAG shall consult with the Native American Heritage Commission, as well as Native American tribes, to identify opportunities for early and effective consultation to identify tribal cultural resources to avoid such resources wherever practicable and feasible and reduce or mitigate for conflicts in compatible land use to the maximum extent practicable.

Utilities and Service Systems

Page 3.19.1-1, Table 3.19.1-1 is revised to correct the tonnage in Ventura County to be 1,904,702 (rather than 1,908,462).

SMM USWS on page 3.19.3-20 has been revised:

SMM USWS-1: SCAG shall coordinate with local agencies as part of SCAG's Sustainability Program regarding the implementation of Urban Greening, Greenbelts and Community Separator land use strategies. Primary features of land use strategies address the following:

- Increased trail and greenway connectivity;
- Improved water quality, groundwater recharge and watershed health;
- Strategies for stormwater and rainwater collection, infiltration, treatment and

release

- Reduce urban runoff;
- Expand the urban forest;
- Provision of wildlife habitat and increased biodiversity;
- Expand recreation opportunities and beautification;
- Preserving agrarian economies;
- Restore severed wildlife corridors.

Glossary

The following change is made to page 7.0-1 of the PEIR:

The following terms are used in the PEIR:

Development Center – are centralized developments such as town centers, or urban centers

Urban infill - is defined as new development that is sited on vacant or undeveloped land within an existing community, and that is enclosed by other types of development.

Compact/walkable communities – communities with high urban density with mixed land uses

Large lot single family homes – varies among zoning for each specific community and can range from 5,000 square foot lots and up.

Small lot single family homes - Typically, small lot developments involve multiple-level, townhome-style single family homes with little or no back yards and minimal setback from the property boundaries

ROW - Right of Way

PEIR Appendix

Appendix 3.5, Cultural Resources Technical Appendix, is replaced in its entirety.

Page 12 and page 15 of Appendix 3.13, Aviation Noise Technical report, is revised as follows:

There ~~is~~ are residential land uses interspersed among the commercial uses with single-family and multifamily land uses. ~~.25 miles south west~~ of the runway. ~~and~~ There are also residential land uses (single family and multi-family) ~~beyond the commercial land uses~~ approximately .75 miles to the north, .5 miles to the west, and one mile to the east. ~~and approximately .25 miles to the south~~. Figure 6, John Wayne Airport Location, illustrates the airport relationship to these land uses.



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