



2016 2040 RTPSCS

THE **2016-2040** REGIONAL TRANSPORTATION PLAN/ SUSTAINABLE COMMUNITIES STRATEGY

A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life

Executive Summary

ADOPTED
APRIL 2016

EXECUTIVE SUMMARY



ENVISIONING OUR REGION IN 2040

Transport yourself 25 years into the future. What kind of Southern California do you envision? SCAG envisions a region that has grown by nearly four million people – sustainably. In communities across Southern California, people enjoy increased mobility, greater economic opportunity and a higher quality of life.

OUR VISION

In our vision for the region in 2040, many communities are more compact and connected seamlessly by numerous public transit options, including expanded bus and rail service. People live closer to work, school, shopping and other destinations. Their neighborhoods are more walkable and safe for bicyclists. They have more options available besides driving alone, reducing the load on roads and highways. People live more active and healthy lifestyles as they bike, walk or take transit for short trips. Goods flow freely along roadways, highways, rail lines and by sea and air into and out of the region – fueling economic growth.

Southern California’s vast transportation network is preserved and maintained in a state of good repair, so that public tax dollars are not expended on costly repairs and extensive rehabilitation. The region’s roads and highways are well-managed so that they operate safely and efficiently, while demands on the regional network are managed effectively by offering people numerous alternatives for transportation.

Housing across the region is sufficient to meet the demands of a growing population with shifting priorities and desires and there are more affordable homes for all segments of society. With more connected communities, more choices for travel and robust commerce, people enjoy more opportunities to advance educationally and economically. As growth and opportunity are distributed widely, people from diverse neighborhoods across the region share in the benefits of an enhanced quality of life.

With more alternatives to driving alone available, air quality is improved and the greenhouse gas emissions that contribute to global climate change are reduced. Communities throughout

Southern California are more prepared to confront and cope with the inevitable consequences of climate change, including droughts and wildfires, heat waves, rising seas and extreme weather. Meanwhile, natural lands and recreational areas that offer people a respite from the busier parts of the region are preserved and protected.

At mid-century, technology has transformed how we get around. Automated cars have emerged as a viable option for people and are being integrated into the overall transportation system. Shared mobility options that rely on instantaneous communication and paperless transactions have matured and new markets for mobility are created and strengthened.

Above all, people across the region possess more choices for getting around and with those choices come opportunities to live healthier, more economically secure and higher quality lives.

This vision for mid-century, which is built on input received from thousands of people across Southern California, is embodied in the 2016 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS, or Plan), a major planning document for our regional transportation and land use network. It balances the region’s future mobility and housing needs with economic, environmental and public health goals. This long-range Plan, required by the state of California and the federal government, is updated by SCAG every four years as demographic, economic and policy circumstances change. The 2016 RTP/SCS is a living, evolving blueprint for our region’s future.

HOW WE GET TO WORK



14%

CARPOOL



76%

DRIVE ALONE



5%

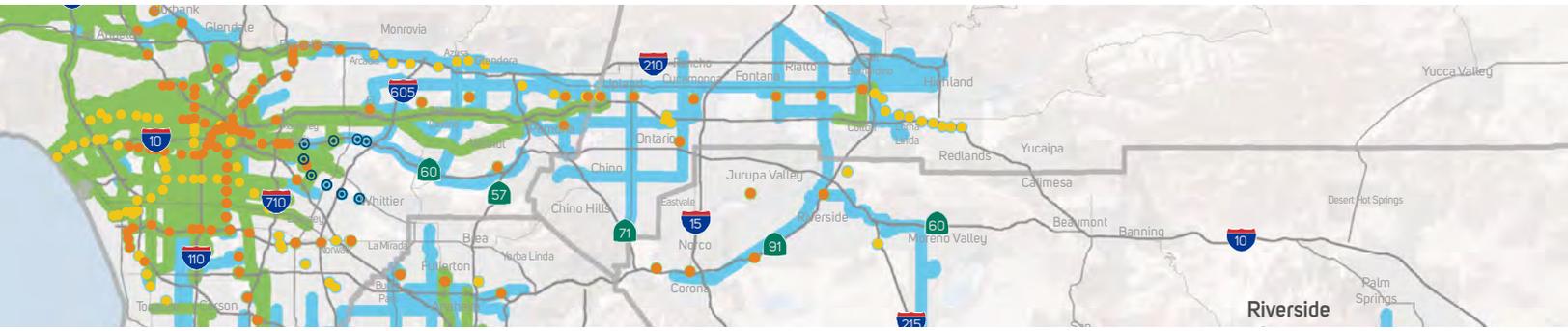
TRANSIT
(Bus/Rail)



5%

NON-MOTORIZED
(Walk/Bike)

Source: SCAG Regional Travel Demand Model

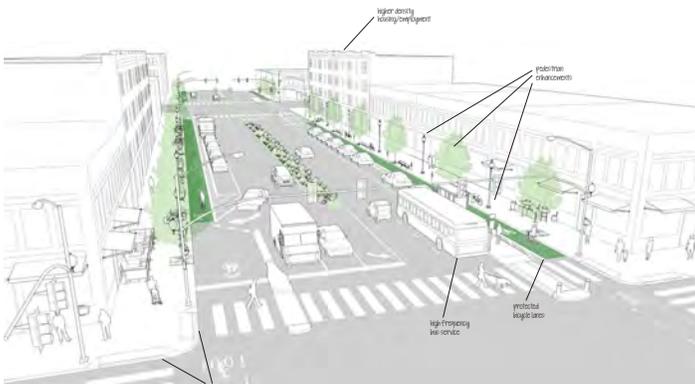


OUR OVERARCHING STRATEGY

It is clear that the path toward realizing our vision will require a single unified strategy, one that integrates planning for how we use our land with planning for how we get around.

Here is what we mean: we can choose to build new sprawling communities that pave over undeveloped natural lands, necessitating the construction of new roads and highways – which will undoubtedly become quickly overcrowded and contribute to regional air pollution and ever increasing greenhouse gas emissions that affect climate change.

Or, we can grow in more compact communities in existing urban areas, providing neighborhoods with efficient and plentiful public transit, abundant and safe opportunities to walk, bike and pursue other forms of active transportation, and preserving more of the region’s remaining natural lands for people to enjoy. This second vision captures the essence of what people have said they want during SCAG outreach to communities across the region.



SCAG acknowledges that more compact communities are not for everyone, and that many residents of our region prefer to live in established suburban neighborhoods. The agency supports local control for local land use decisions, while striving for a regional vision of more sustainable growth.



Within the 2016 RTP/SCS, you will read about plans for “High Quality Transit Areas,” “Livable Corridors,” and “Neighborhood Mobility Areas.” These are a few of the key features of a thoughtfully planned, maturing region in which people benefit from increased mobility, more active lifestyles, increased economic opportunity and an overall higher quality of life. These features embody the idea of integrating planning for how we use land with planning for transportation.

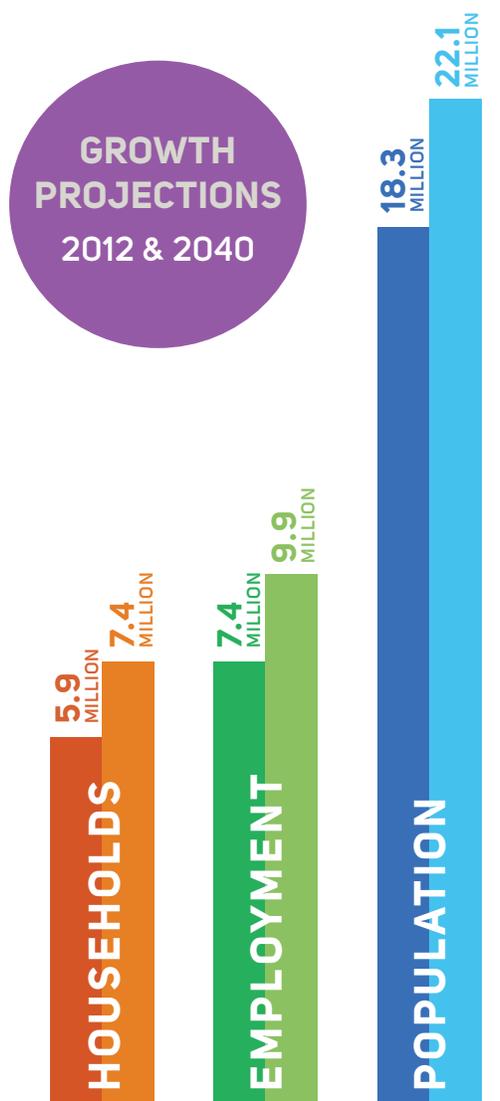


As we pursue this unified strategy, it will be vital that we ensure that the benefits of our initiatives are widely distributed and that the burdens of development are not carried by any one group disproportionately. Social equity and environmental justice are key considerations of our overall Plan.

CHALLENGES WE FACE

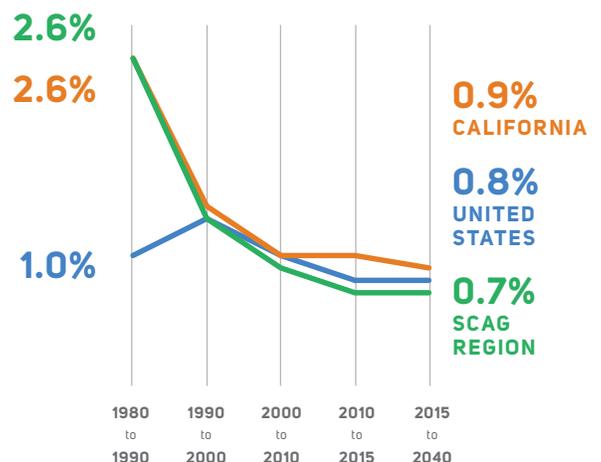
We are living at a time of great change in Southern California. Our region must confront several challenges as we pursue the goals outlined in the 2016 RTP/SCS:

- **We are growing slower:** But our region is projected to grow to 22 million people by 2040 – an increase of nearly four million people.
- **Our overall population will be older:** The median age of our region’s overall population is expected to rise, with an increasing share of senior citizens. This demographic shift will have major impacts on transportation needs and on our transportation plans. A key challenge for the region will be to provide seniors with more transportation options for maintaining their independence as they age.
- **A smaller percentage of us will be working:** The share of younger people of working age is expected to fall. The ratio of people over the age of 65 to people of working age (15 to 64) is expected to increase. This means that our region could face a labor shortage and a subsequent reduction in tax revenues.
- **A large number of us want more urban lifestyles:** Today’s Millennials, born between 1980 and 2000, are expected to demand more compact communities and more access to transit – shifting regional priorities for the overall transportation system and the types of housing that are constructed. Baby Boomers are also expected to increasingly desire these kinds of communities.
- **Many of us will continue to live in the suburbs and drive alone:** Despite the emerging trends discussed above, many people in the region will continue to live in suburban neighborhoods and drive alone to work, school, shopping and other destinations - rather than use public transit and other transportation alternatives. The 2016 RTP/SCS will not change how everyone chooses to get around, but the Plan is designed to offer residents more choices so that we can experience regionwide benefits.
- **Housing prices are increasing:** Housing prices are rising steadily and affordability is declining. As communities are redeveloped to be more compact with new transit options and revitalized urban amenities, existing residents may risk displacement.



Source: CA DOF, CA EDD, SCAG

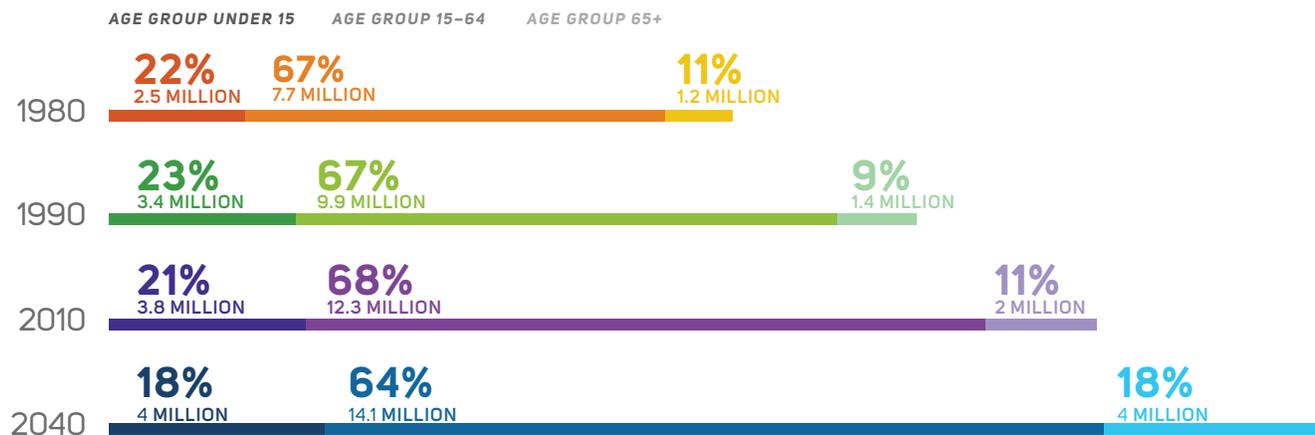
Average Annual Population Growth Rate



Source: US Census Bureau, CA DOF, SCAG

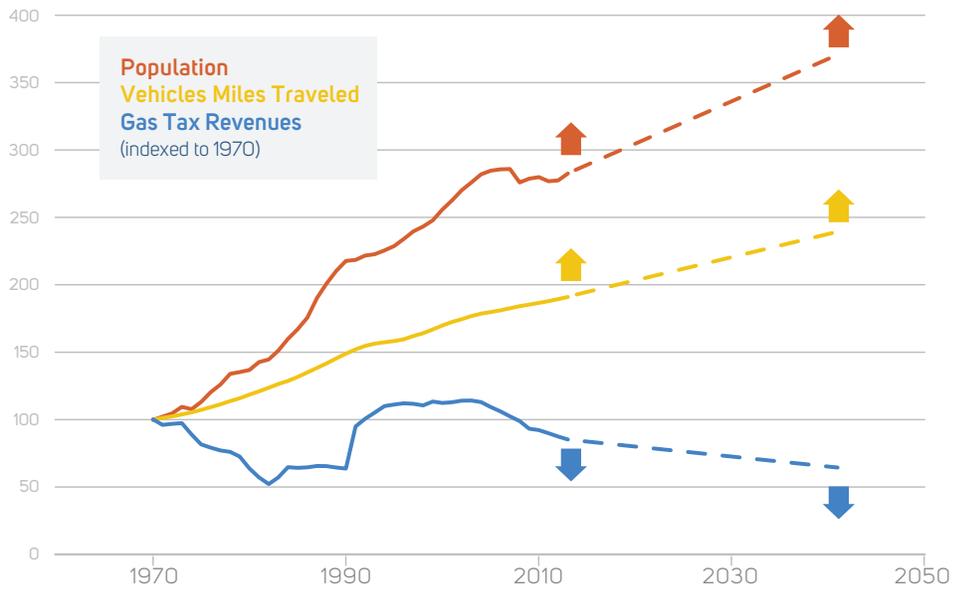
- Our transportation system requires rehabilitation and maintenance:** Southern California’s transportation system is becoming increasingly compromised by decades of underinvestment in maintaining and preserving our infrastructure. These investments have not kept pace with the demands placed on the system and the quality of many of our roads, highways, bridges, transit and bicycle and pedestrian facilities is continuing to deteriorate. If we continue on our current path of seriously underfunding system preservation, the cost of bringing our system back to a reasonable state of good repair will grow exponentially.
- Transportation funding is scarce and insufficient:** Full funding for transportation improvements is currently not sustainable, given the projected needs. Projected revenues from the gas tax, the historic source of transportation funding, will not meet transportation investment needs – and gas tax revenues, in real terms, are actually in decline as tax rates (both state and federal) have not been adjusted in more than two decades while the number of more fuel efficient and alternative powered vehicles continues to grow.
- Moving goods through the region faces growing pains:** The movement of goods will face numerous challenges as consumer demand for products increases and the region continues to grow as a major exchange point for global trade. Infrastructure for freight traffic will be strained, current efforts to reduce air pollution from goods movement sources will not be sufficient to meet national air quality standards, capacity at international ports will be over-burdened and warehouse space could fall short of demands.
- Technology is transforming transportation:** Mobility innovations including electric cars, the availability of real-time traveler information, the expansion of car sharing and ridesourcing due to smart phones and other technological advances will require updated planning to smoothly integrate these new travel options into the overall transportation system.
- Millions suffer from chronic diseases:** Many people in our region suffer from poor health due to chronic diseases related to poor air quality and physical inactivity. Heart disease, stroke, cancer, chronic lower respiratory disease and diabetes are responsible for 72 percent of all deaths in our region. Nine percent of residents have been diagnosed with diabetes, 27 percent with hypertension and 13 percent with asthma, and more than 60 percent are overweight or obese, according to the California Health Interview Survey.
- Climate change demands that we adapt:** The consequences of climate change will continue to impact everyday life for millions of people. The region is expected to experience more droughts and wildfires, water shortages because of drought but also because of declining snowpack in our mountains, rising seas, extreme weather events, and other impacts. Communities will need to make their neighborhoods more resilient to these changes.

More Baby Boomers Will Age & Retire



Source: US Census Bureau, SCAG

FIGURE 1 CALIFORNIA POPULATION, TRAVEL AND GAS TAX REVENUE TRENDS



Source: Caltrans, California Department of Finance, California State Board of Equalization, White House Office of Management and Budget

The State of Disrepair

17%
OF HIGHWAYS ARE
DISTRESSED

6%
OF LOCAL ROADS IN
FAILED CONDITION
IN 2012

25%
OF LOCAL ROADS WILL BE IN **FAILED CONDITION**
IN 2022 UNDER CURRENT (2012) FUNDING

18%
OF BRIDGES RATED
AS **FUNCTIONALLY**
OBSOLETE

10%
OF BRIDGES RATED
AS **STRUCTURALLY**
DEFICIENT



of all proposed expenditures through
2040
are allocated to
highway & arterial system operations
& maintenance in the
2016 RTP/SCS

Source: Federal Highway Administration National Bridge Inventory & 2014 State Highway Operation & Protection Program

OUR PROGRESS SINCE 2012

Although our challenges are great, the region has made significant progress over the past few years.

TRANSIT

Transit service continues to expand throughout the region and the level of service has exceeded pre-recessionary levels – mainly due to a growth in rail service. Significant progress has been made toward completing capital projects for transit, including the Los Angeles County Metropolitan Transportation Authority (Metro) Orange Line Extension and the Metro Expo Line. Meanwhile, five major Metro Rail projects are now under construction in Los Angeles County.

PASSENGER RAIL

Passenger rail is expanding and improving service on several fronts. The Amtrak Pacific Surfliner is now being managed locally by the Los Angeles- San Diego-San Luis Obispo (LOSSAN) Rail Corridor Agency; Riverside County Transportation Commission (RCTC) completed the Perris Valley Line in early 2016; Metrolink became the first commuter railroad in the nation to implement Positive Train Control and purchase fuel-efficient, low-emission Tier IV locomotives; and the California High-Speed Train is under construction in the Central Valley, and planning and environmental work is underway in our region to the Los Angeles/Anaheim Phase One terminus. Several other capital projects are underway or have been completed, including the Anaheim Regional Intermodal Transportation Center (ARTIC) and the Burbank Bob Hope Airport Regional Intermodal Transportation Center, among others.

HIGHWAYS

The expansion of highways has slowed considerably over the last decade because of land, financial and environmental constraints. Still, several projects have been completed since 2012 to improve access and close critical gaps and congestion chokepoints in the regional network. These include the Interstate 10 westbound widening in Redlands and Yucaipa, the Interstate 215 Bi-County HOV Project in Riverside and San Bernardino Counties, and a portion of the Interstate 5 South Corridor Project in Los Angeles County (between North Fork Coyote Creek to Marquardt Avenue), among others.

REGIONAL HIGH-OCCUPANCY VEHICLE (HOV) AND EXPRESS LANE NETWORK

The demands on our region's highways continue to exceed available capacity during peak periods, but several projects to close HOV gaps have been completed. The result has been 39 more lane miles of regional HOV lanes on Interstates 5, 405, 10, 215 and 605, on State Routes 57 and 91, and on the West County Connector Project (direct HOV connection between Interstate 405, Interstate 605 and State Route 22) within Orange County. The region is also developing a regional express lane network. Among the milestones: a one-year demonstration of express lanes in Los Angeles County along Interstate 10 and Interstate 110 was made permanent in 2014; and construction has begun on express lanes on State Route 91 extending eastward to Interstate 15 in Riverside County.

ACTIVE TRANSPORTATION

Our region is making steady progress in encouraging more people to embrace active transportation and more than \$650 million in Active Transportation Program investments are underway. Nearly 38 percent of all trips are less than three miles, which is convenient for walking and biking. As a percentage share of all trips, bicycling has increased more than 70 percent since 2007 to 1.12 percent. More than 500 miles of new bikeways have been constructed in the region, and safety and encouragement programs are helping people choose walking and biking.

GOODS MOVEMENT

The region continues to make substantial progress toward completing several major capital initiatives to support freight transportation and reducing harmful emissions generated by goods movement sources. Progress since 2012 has included implementation of the San Pedro Bay Ports Clean Air Action Program (CAAP), which is reducing diesel particulate matter dropping by 82 percent, nitrogen oxides by 54 percent and sulfur oxides by 90 percent; and the San Pedro Bay Ports Clean Truck Program, which has led to an 80 percent reduction in port truck emissions. The region has also shown progress in advanced technology for goods movement, including a one-mile Overhead Catenary System (OCS) in the City of Carson. Construction of the Gerald Desmond Bridge has begun. Seventeen out of 71 planned grade separation projects throughout the region have been completed, and another 21 are expected to be complete in 2016. Double tracking of the Union Pacific (UP) Alhambra Subdivision has been initiated. The Colton Crossing, which physically separated two Class I railroads with an elevated 1.4-mile-long overpass that lifts UP trains traveling east-west, was completed in August 2013.

SUSTAINABILITY IMPLEMENTATION

Since 2012, SCAG's Sustainability Planning Grant Program has funded 70 planning projects (totaling \$10 million) to help local jurisdictions link local land use plans with 2012 RTP/SCS goals. Local jurisdictions have updated outmoded General Plans and zoning codes; completed specific plans for town centers and Transit Oriented Development (TOD); implemented sustainability policies; and adopted municipal climate action plans. Thirty of the 191 cities and two of the six counties in the SCAG region report having updated their General Plans since 2012, and another 42 cities have General Plan updates pending. Fifty-four percent of the cities reporting adopted or pending General Plan updates include planning for TOD, 55 percent plan to concentrate key destinations, and 76 percent include policies encouraging infill development. Of the counties reporting updates or pending updates to their General Plans, 75 percent include TOD elements, 100 percent encourage infill development, 75 percent promote concentrated destinations, and 75 percent feature policies to address complete communities. To protect water quality, 91 percent of cities have adopted water-related policies and 85 percent have adopted measures to address water quality. To conserve energy, 86 percent of cities have implemented community energy efficiency policies, with 80 percent of those cities implementing municipal energy efficiency policies and 76 percent implementing renewable energy policies. Of the region's 191 cities, 189 have completed sustainability components, with 184 cities implementing at least ten or more policies or programs and ten cities implementing 20 or more policies or programs. This last group includes Pasadena, Pomona and Santa Monica.

AFFORDABLE HOUSING

The state is offering new opportunities to help regions promote affordable housing. In spring 2015, California's Affordable Housing Sustainable Communities (AHSC) program awarded its first round of funding to applicants after a competitive grant process. Of \$122 million available statewide, \$27.5 million was awarded to ten projects in the SCAG region. Eight-hundred forty-two affordable units, including 294 units designated for households with an income of 30 percent or less of the area median income, will be produced with this funding. Meanwhile, Senate Bill 628 (Beall) and Assembly Bill 2 (Alejo), provide jurisdictions with an opportunity to establish a funding source to develop affordable housing and supportive infrastructure and amenities.

PUBLIC HEALTH

The SCAG region has several ongoing efforts to promote public health. The Los Angeles County Departments of Public Health and City of Los Angeles Planning Department are developing a Health Atlas that highlights health disparities among neighborhoods. In Riverside County, the Healthy Riverside County Initiative has formed a Healthy City Network to continue to successfully work with the county's 28 cities to enact Healthy City Resolutions and Health Elements into their General Plans. The County of San Bernardino has recently completed the Community Vital Signs Initiative, which envisions a "county where a commitment to optimizing health and wellness is embedded in all decisions by residents, organizations and government."

ENVIRONMENTAL JUSTICE

Since the adoption of the 2012 RTP/SCS, social equity and environmental justice have become increasingly significant priorities in regional plans. For example, plans to promote active transportation, improve public health, increase access to transit, preserve open space, cut air pollution and more are all evaluated for how well the benefits of these efforts are distributed among all demographic groups. The State of California's Environmental Protection Agency (Cal/EPA) developed a new tool, CalEnviroScreen, which helps to identify areas in the state that have higher levels of environmental vulnerability due to historical rates of toxic exposure and certain social factors. Based on this tool, much of the region can stand to benefit from Cap-and-Trade grants that give priority to communities that are disproportionately impacted.

SETTING THE STAGE FOR OUR PLAN

SCAG began developing the 2016 RTP/SCS by first reaching out to the local jurisdictions to hear directly from them about their growth plans. The next step was to develop scenarios of growth, each one representing a different vision for land use and transportation in 2040. More specifically, each scenario was designed to explore and convey the impact of where the region would grow, to what extent the growth would 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. The refinement of these scenarios, through extensive public outreach and surveys, led to a “preferred scenario” that helped guide the strategies, programs and projects detailed in the Plan.

MAJOR INITIATIVES

With the preferred scenario selected, the 2016 RTP/SCS, which includes \$556.5 billion in transportation investments, has proposed several major initiatives to strive toward our vision for 2040.

PRESERVING THE TRANSPORTATION SYSTEM WE ALREADY HAVE (FIX-IT-FIRST)

The 2016 RTP/SCS calls for the investment of \$275.5 billion toward preserving our existing system. The allocation of these expenditures includes the transit and passenger rail systems, the state highway system and regionally significant local streets and roads.

EXPANDING OUR REGIONAL TRANSIT SYSTEM TO GIVE PEOPLE MORE ALTERNATIVES TO DRIVING ALONE

The 2016 RTP/SCS includes \$56.1 billion for capital transit projects and \$156.7 billion for operations and maintenance. This includes significant expansions of the Metro subway and Light Rail Transit (LRT) system in Los Angeles County. Meanwhile, new Bus Rapid Transit (BRT) routes will expand higher-speed bus service regionally; new streetcar services will link major destinations in Orange County; and new Metrolink extensions will further connect communities in the Inland Empire. Other extensive improvements are planned for local bus, rapid bus, BRT and express service throughout the region. To make transit a more attractive and viable option, the 2016 RTP/SCS also supports implementing and expanding transit signal priority; regional and inter-county fare agreements and media; increased bicycle carrying capacity on transit and rail vehicles; real-time passenger information systems to allow travelers to make more informed decisions; and implementing first/last mile strategies to extend the effective reach of transit.

EXPANDING PASSENGER RAIL

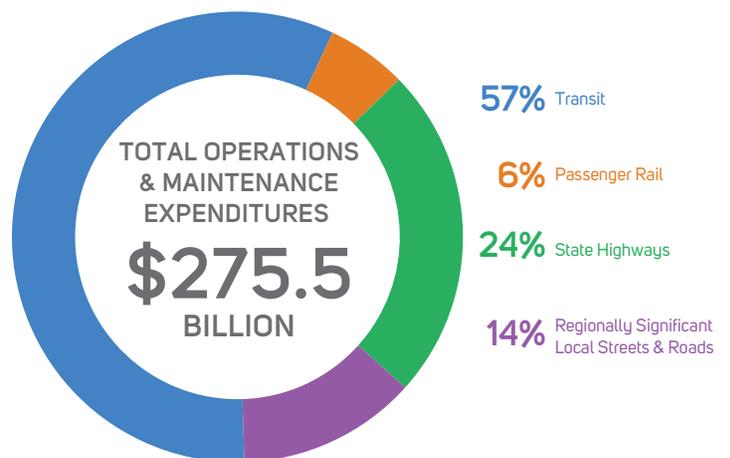
The 2016 RTP/SCS calls for an investment in passenger rail of \$38.6 billion for capital projects and \$15.7 billion for operations and maintenance. The Plan calls for maintaining the commitments in the 2012 RTP/SCS, including Phase 1 of California High-Speed Train system and the High-Speed Train System Memorandum of Understanding (MOU), which identifies a candidate project list to improve the Metrolink system and the LOSSAN rail corridor,

thereby providing immediate, near-term benefits to the region while laying the groundwork for future integration with California’s High-Speed Train project. These capital projects will bring segments of the regional rail network up to the federally defined speed of 110 miles per hour or greater, and help lead to a blended system of rail services.

IMPROVING HIGHWAY AND ARTERIAL CAPACITY

The 2016 RTP/SCS calls for investing \$54.2 billion in capital improvements and \$103.0 billion in operations and maintenance of the state highway system and regionally significant local streets and roads throughout the region. This includes focusing on achieving maximum productivity by adding capacity primarily by closing gaps in the system and improving access; and other measures including the deployment of new technology. The Plan also continues to support a regional network of Express Lanes, building on the success of the State Route 91 Express Lanes in Orange County, as well as Interstate 10 and Interstate 110 Express Lanes in Los Angeles County.

FIGURE 2 PRESERVATION AND OPERATIONS EXPENDITURES



Source: California Department of Transportation, 2015 Ten-Year SHOPP Plan

MANAGING DEMANDS ON THE TRANSPORTATION SYSTEM

The 2016 RTP/SCS calls for investing \$6.9 billion toward Transportation Demand Management (TDM) strategies throughout the region. These strategies focus on reducing the number of drive-alone trips and overall vehicle miles traveled (VMT) through ridesharing, which includes carpooling, vanpooling and supportive policies for ridesourcing services such as Uber and Lyft; redistributing or eliminating vehicle trips from peak demand periods through incentives for telecommuting and alternative work schedules; and reducing the number of drive-alone trips through increased use of transit, rail, bicycling, walking and other alternative modes of travel.

OPTIMIZING THE PERFORMANCE OF THE TRANSPORTATION SYSTEM

The 2016 RTP/SCS earmarks \$9.2 billion for Transportation System Management (TSM) improvements. These include extensive advanced ramp metering, enhanced incident management, bottleneck removal to improve flow (e.g., auxiliary lanes), expansion and integration of the traffic signal synchronization network, data collection to monitor system performance, integrated and dynamic corridor congestion management, and other Intelligent Transportation System (ITS) improvements. Recent related initiatives include the Caltrans Advanced Traffic Management (ATM) study for Interstate 105 and the Regional Integration of ITS Projects (RIITS) and Information Exchange Network (IEN) data exchange efforts at Los Angeles Metro.

PROMOTING WALKING, BIKING AND OTHER FORMS OF ACTIVE TRANSPORTATION

The 2016 RTP/SCS plans for continued progress in developing our regional bikeway network, assumes all local active transportation plans will be implemented, and dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks. The Plan invests \$12.9 billion in active transportation strategies. The Plan also considers new strategies and approaches beyond those proposed in 2012. To promote short trips, these include improving sidewalk quality, local bike networks and neighborhood mobility areas. To promote longer regional trips, these strategies include developing a regional greenway network and continuing investments in the regional bikeway network and access to the California Coastal Trail. Active transportation will also be promoted by integrating it with the region's transit system; increasing access to 224 rail, light rail and fixed guideway bus stations; promoting 16 regional corridors that support biking and walking; supporting bike share programs; educating people about the benefits of active transportation for students; and promoting safety campaigns.

STRENGTHENING THE REGIONAL TRANSPORTATION NETWORK FOR GOODS MOVEMENT

The 2016 RTP/SCS includes \$70.7 billion in goods movement strategies. Among these are establishing a system of truck-only lanes extending from the San Pedro Bay Ports to downtown Los Angeles along Interstate 710; connecting to the State Route 60 east-west segment and finally reaching Interstate 15 in San Bernardino County; working to relieve the top 50 regional truck bottlenecks; adding mainline tracks for the Burlington Northern Santa Fe (BNSF) San Bernardino and Cajon Subdivisions and the Union Pacific Railroad (UPRR) Alhambra and Mojave Subdivisions; expanding/modernizing intermodal facilities; building highway-rail grade separations; improving port area rail infrastructure; reducing environmental impacts by supporting the deployment of commercially available low-emission trucks and locomotives; and in the longer term advancing technologies to implement a zero- and near zero-emission freight system.

LEVERAGING TECHNOLOGY

Advances in communications, computing and engineering – from shared mobility innovations to zero-emission vehicles – can lead to a more efficient transportation system with more mobility options for everyone. Technological innovations also can reduce the environmental impact of existing modes of transportation. For example, alternative fuel vehicles continue to become more accessible for retail consumers and for freight and fleet applications – and as they are increasingly used air pollution can be reduced. Communications technology, meanwhile, can improve the movement of passenger vehicles and connected transit vehicles. As part of the 2016 RTP/SCS, SCAG has focused location-based strategies specifically on increasing the efficiency of Plug-in Hybrid Electric Vehicles (PHEV) in the region. These are electric vehicles that are powered by a gasoline engine when their battery is depleted. The 2016 RTP/SCS proposes a regional charging network that will increase the number of PHEV miles driven on electric power, in addition to supporting the growth of the PEV market generally. In many instances, the additional chargers will create the opportunity to increase the electric range of PHEVs, reducing vehicle miles traveled that produce tail-pipe emissions.

IMPROVING AIRPORT ACCESS

Recognizing that SCAG region is one of the busiest and most diverse commercial aviation regions in the world and that air travel is an important contributor to the region's economic activity, the 2016 RTP/SCS includes strategies for reducing the impact of air passenger trips on ground transportation congestion. Such strategies include supporting the regionalization of air travel demand; continuing to support regional and inter-regional projects that

TABLE 1 SELECTED TRANSIT CAPITAL PROJECTS

COUNTY	PROJECT
Los Angeles	Airport Metro Connector
Los Angeles	Crenshaw LAX Transit Corridor
Los Angeles	East San Fernando Valley Transit Corridor
Los Angeles	Eastside Transit Corridor Phase 2
Los Angeles	Exposition Transit Corridor, Phase 2 to Santa Monica
Los Angeles	Metro Gold Line Foothill Extension Phase 2A
Los Angeles	Metro Gold Line Foothill Extension: Azusa to County Line
Los Angeles	Purple Line Extension to La Cienega, Century City, Westwood
Los Angeles	Regional Connector
Los Angeles	Sepulveda Pass Corridor
Los Angeles	South Bay Metro Green Line Extension
Los Angeles	West Santa Ana Branch Transit Corridor
Los Angeles	Bus & Rail Capital—LA County Near Term
Los Angeles	Countywide Bus System Improvement—Metro Fleet
Los Angeles	Countywide Bus System Improvement—LA County Muni Fleet
Los Angeles	Metro Rail System Improvements (Capital Costs Only)
Los Angeles	Metro Rail Rehabilitation and Replacement (Capital Costs Only)
Los Angeles	Transit contingency/new rail yards/additional rail cars (Capital costs only)—LA County
Los Angeles	Vermont Short Corridor
Los Angeles	Metro Red Line Extension: Metro Red Line Station North Hollywood to Burbank Bob Hope Airport
Los Angeles	Metro Green Line Extension: Metro Green Line Norwalk Station to Norwalk Metrolink Station
Los Angeles	Slauson Light Rail: Crenshaw Corridor to Metro Blue Line Slauson Station
Orange	Anaheim Rapid Connection
Orange	Countywide Fixed-Route, Express and Paratransit Capital (Baseline)—Orange County
Orange	OC Streetcar
Riverside	Coachella Valley Bus Rapid Service
Riverside	Perris Valley Line
Riverside	Perris Valley Line Extension to San Jacinto
San Bernardino	Foothill/5th Bus Rapid Transit
San Bernardino	Gold Line Phase 2B to Montclair
San Bernardino	Metrolink San Bernardino Line Double tracking
San Bernardino	Passenger Rail Service from San Bernardino to Ontario Airport
San Bernardino	Redlands Rail
San Bernardino	West Valley Connector Bus Rapid Transit

Source: 2016-2040 RTP/SCS Project List

facilitate airport ground access (e.g., High-Speed Train); supporting ongoing local planning efforts by airport operators, county transportation commissions and local jurisdictions; encouraging the development and use of transit access to the region's airports; encouraging the use of modes with high average vehicle occupancy; and discouraging the use of modes that require "deadhead" trips to/from airports (e.g., passengers being dropped off at the airport via personal vehicle).

FOCUSING NEW GROWTH AROUND TRANSIT

The 2016 RTP/SCS plans for focusing new growth around transit, which is supported by the following policies: identifying regional strategic areas for infill and investment; structuring the Plan on centers development; developing "Complete Communities";

TABLE 2 MAJOR TRANSIT OPERATIONS AND MAINTENANCE PROJECTS AND INVESTMENTS

(Over \$500 Million)

COUNTY	PROJECT
Los Angeles	Access Services Incorporated (Paratransit)—Metro subsidy
Los Angeles	Preventive Maintenance (Capital & Operating Maintenance Items Only)—LA County
Orange	Countywide Fixed-Route, Express and Paratransit Operations—Orange County
Orange	OCTA SRTP Implementation
Orange	Metrolink Operations—Orange County
Orange	Transit Extensions to Metrolink—Go Local Operations—Orange County
San Bernardino	San Bernardino Countywide Local Transit Service Operations
Regionwide	Regionwide Transit Operations and Maintenance—Preservation
Regionwide	Expand Bus Service: Productive Corridors
Regionwide	Expand Bus Service: BRT
Regionwide	Expand Bus Service: Point-to-Point

Source: 2016-2040 RTP/SCS Project List

TABLE 3 TOP SIX MOU PROJECTS

Los Angeles	Southern California Regional Interconnector Project
Los Angeles	CP Brighton to CP Roxford Double Track
Orange	State College Blvd. Grade Separation
Riverside	McKinley St. Grade Separation
San Bernardino	CP Lilac to CP Rancho Double Track
San Diego	San Onofre to Pulgas Double Track

CP = A track switch, or the location of a track signal or other marker with which dispatchers can specify when controlling trains.

developing nodes on a corridor; planning for additional housing and jobs near transit; planning for changing demand in types of housing; continuing to protect stable, existing single-family areas; ensuring adequate access to open space and preservation of habitat; and incorporating local input and feedback on future growth. These policies support the development of:

- **High Quality Transit Areas (HQTAs):** areas within one-half mile of a 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. While HQTAs account for only three percent of total land area in SCAG region, they are planned and projected to accommodate 46 percent of the region's future household growth and 55 percent of the future employment growth.
- **Livable Corridors:** 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.
- **Neighborhood Mobility Areas (NMAs):** these areas represent the synthesis of various planning practices and are applicable in a wide range of settings. Strategies 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.

IMPROVING AIR QUALITY AND REDUCING GREENHOUSE GASES

It is through integrated planning for land use and transportation that the SCAG region, through the initiatives discussed in this section, will strive toward a more sustainable region. The SCAG region must achieve specific federal air quality standards. It also is required by state law to lower regional greenhouse gas emissions. California law requires the region to reduce per capita greenhouse gas emissions in the SCAG region by eight percent by 2020 – compared with 2005 levels – and by 13 percent by 2035. The strategies, programs and projects outlined in the 2016 RTP/SCS are projected to result in reduced greenhouse gas emissions reductions in the SCAG region that exceeds these reduction targets.

PRESERVING NATURAL LANDS

Many natural land areas near the edge of existing urbanized areas do not have plans for conservation and are vulnerable to development pressure. The 2016 RTP/SCS recommends redirecting growth from high value habitat areas to existing urbanized areas. This strategy avoids growth in sensitive habitat areas, builds upon the conservation framework, and complements an infill-based approach.

TABLE 4 SAMPLE MAJOR HIGHWAY PROJECTS COMMITTED BY THE COUNTIES

	COUNTY	ROUTE	DESCRIPTION	COMPLETION YEAR	COST (\$1,000s)
MIXED-FLOW LANES	Imperial	SR-98	Widen and improve SR-98 or Jasper Rd to 4/6 lanes	2025	\$1,170,483
	Imperial	SR-111	Widen and improve to a 6-lane highway with interchanges to 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	2029	\$475,000
	Orange	I-5	Add one mixed-flow lane in each direction from SR-57 to SR-91	2040	\$305,924
	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	2030	\$274,900
	Orange	SR-91	Add one eastbound mixed-flow lane on SR-91 from SR-57 to SR-55 and one westbound mixed-flow lane from Kraemer to State College	2030	\$425,000
	Orange	I-405	Add one mixed-flow lane in each direction from I-5 to SR-55	2030	\$374,540
	Orange	I-405	Add one mixed-flow lane in each direction from SR-73 and I-605	2022	\$1,300,000
	Ventura	SR-118	Add one mixed-flow lane in each direction from Tapo Canyon Rd to LA Ave	2025	\$216,463
EXPRESS LANES	Los Angeles	I-110	Construct express lane off-ramp connector from 28th St to Figueroa St	2023	\$55,000
	Riverside	I-15	Add one express lane in each direction from Cajalco Rd to SR-7	2029	\$453,174
	San Bernardino	I-15	Add two express lanes in each direction from US-395 to I-15/I-215 interchange	2030	\$687,994
HOV LANES	Los Angeles	I-5	Add one HOV lane in each direction from Weldon Canyon Rd to SR-14	2017	\$410,000
	Los Angeles	SR-14	Add one HOV lane in each direction from Ave P-8 to Ave L	2027	\$120,000
	Los Angeles	SR-71	Convert expressway to highway-add one HOV lane and one mixed-flow lane	2028	\$13,392
	Orange	I-5	Add one HOV lane in each direction from Pico to SD County Line	2040	\$237,536
	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-10	Add one HOV lane in each direction from Ford to RV County Line	2030	\$126,836
	San Bernardino	I-215	Add one HOV lane in each direction from SR-210 to I-15	2035	\$249,151
	San Bernardino	I-210	Add one HOV lane in each direction from I-215 to I-10	2040	\$178,780
Ventura	US-101	Add one HOV lane in each direction from LA/VEN County Line to SR-33	2029	\$132,000	

TABLE 5 MAJOR HOV LANE PROJECTS

COUNTY	ROUTE	FROM	TO	COMPLETION YEAR
Los Angeles	I-5	Weldon Canyon	SR-14	2017
Los Angeles	I-5	Pico Canyon	Parker Rd	2025
Los Angeles	SR-14	Ave P-8	Ave L	2027
Los Angeles	SR-71	Mission Blvd	Rio Rancho Rd	2028
Orange	I-5	Pico	SD County Line	2040
Orange	I-5	SR-55	SR-57	2018
Orange	SR-73	I-405	MacArthur	2040
Riverside	I-15	SR-74	I-15/I-215 Interchange	2039
Riverside	I-215	Nuevo Rd	Box Springs Rd	2030
San Bernardino	I-10	Ford St	RV/SB County Line	2030
San Bernardino	I-215	SR-210	I-15	2035
San Bernardino	I-210	I-215	I-10	2040
Ventura	US-101	Moorpark Rd	SR-33	2029

HIGHWAY TO HIGHWAY HOV CONNECTORS				
COUNTY	ROUTE	FROM	TO	COMPLETION YEAR
Los Angeles	I-5/I-405	Connector (partial)		2029
Los Angeles	I-405/I-110	Connector Improvements		2021
Orange	I-405/SR-73	Connector		2040
San Bernardino	I-10/I-15	Connector (partial)		2035

TABLE 6 REGIONAL EXPRESS LANE NETWORK

	COUNTY	ROUTE	FROM	TO
EXPRESS LANE ADDITIONS	Los Angeles	I-10	I-605	San Bernardino County Line
	Los Angeles	I-105*	I-405	I-605
	Los Angeles	I-405**	I-5	Orange County Line
	Los Angeles	I-605	I-10	Orange County Line
	Orange	SR-55	SR-91	I-405
	Orange	SR-73	I-405	MacArthur Boulevard
	Orange	I-405**	Los Angeles County Line	SR-55
	Orange	I-605	Los Angeles County Line	I-405
	Riverside	I-15**	San Bernardino County Line	SR-74
	Riverside	SR-91*	Orange County Line	I-15
	San Bernardino	I-10**	Los Angeles County Line	Ford Street
	San Bernardino	I-15**	High Desert Corridor	Riverside County Line
	EXPRESS LANE DIRECT CONNECTORS	Los Angeles	I-405/I-110	I-405 NB to I-110 NB and I-110 SB to I-405 SB
Orange		I-5/SR-55	Existing HOV to proposed express lane direct connector	
Orange		SR-91/SR-55	Existing HOV to proposed express lane direct connector	
Orange		SR-91/SR-241	SR-241 NB to SR-91 EB and SR-91 WB to SR-241 SB	
Orange		I-405/SR-55	Existing HOV to proposed express lane direct connector	
Orange		I-405/SR-73	Planned HOV to proposed express lane direct connector	
Orange		I-405/I-605	Existing HOV to proposed express lane direct connector	
Riverside	SR-91/I-15	SR-91 EB to I-15 SB and I-15 NB to SR-91 WB		

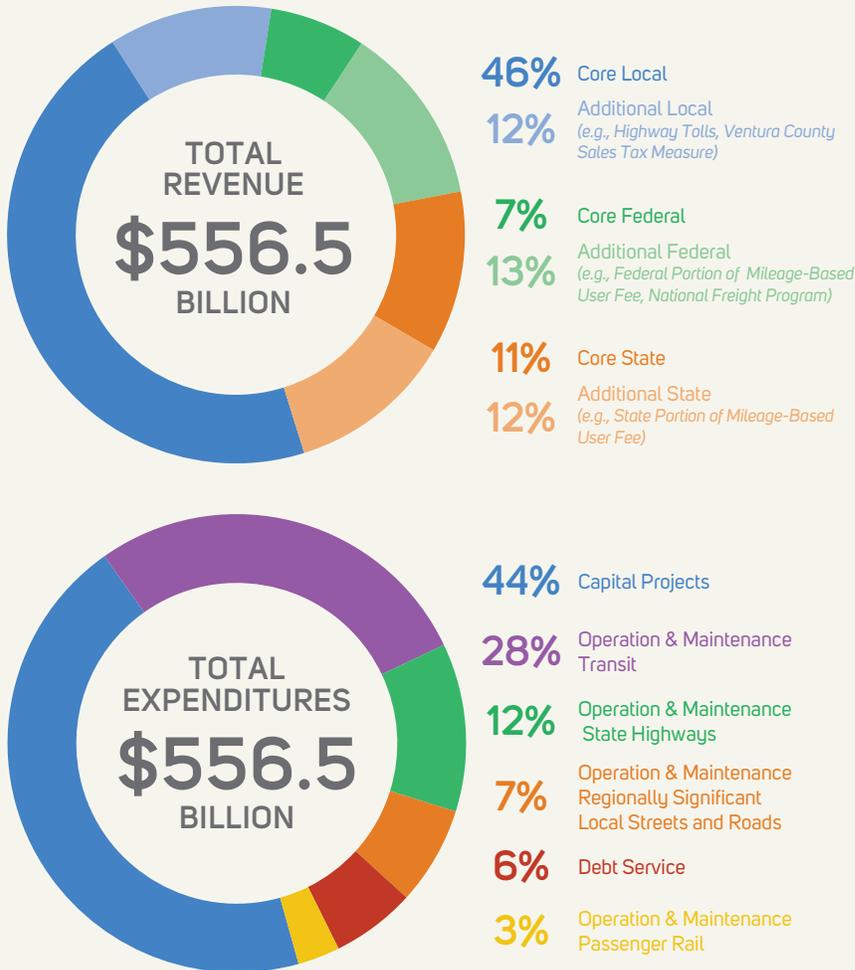
Notes: * Dual express lanes for entire length ** Dual express lanes for a section

FINANCING OUR FUTURE

To accomplish the ambitious goals of the 2016 RTP/SCS through 2040, SCAG forecasts expenditures of \$556.5 billion – of which \$275.5 billion is budgeted for operations and maintenance of the regional transportation system and another \$246.6 billion is reserved for transportation capital improvements.

Forecasted revenues comprise both existing and several new funding sources that are reasonably expected to be available for the 2016 RTP/SCS, which together total \$556.5 billion. Reasonably available revenues include short-term adjustments to state and federal gas excise tax rates and the long-term replacement of gas taxes with mileage-based user fees (or equivalent fuel tax adjustment). These and other categories of funding sources were identified as reasonably available on the basis of their potential for revenue generation, historical precedence and the likelihood of their implementation within the time frame of the Plan.

FIGURE 3 FY 2016–2040 SUMMARY OF REVENUE & EXPENDITURES (IN NOMINAL DOLLARS)



WHAT WE WILL ACCOMPLISH

Overall, the transportation investments in the 2016 RTP/SCS will provide a return of \$2.00 for every dollar invested. Compared with an alternative of not adopting the Plan, the 2016 RTP/SCS would accomplish the following:

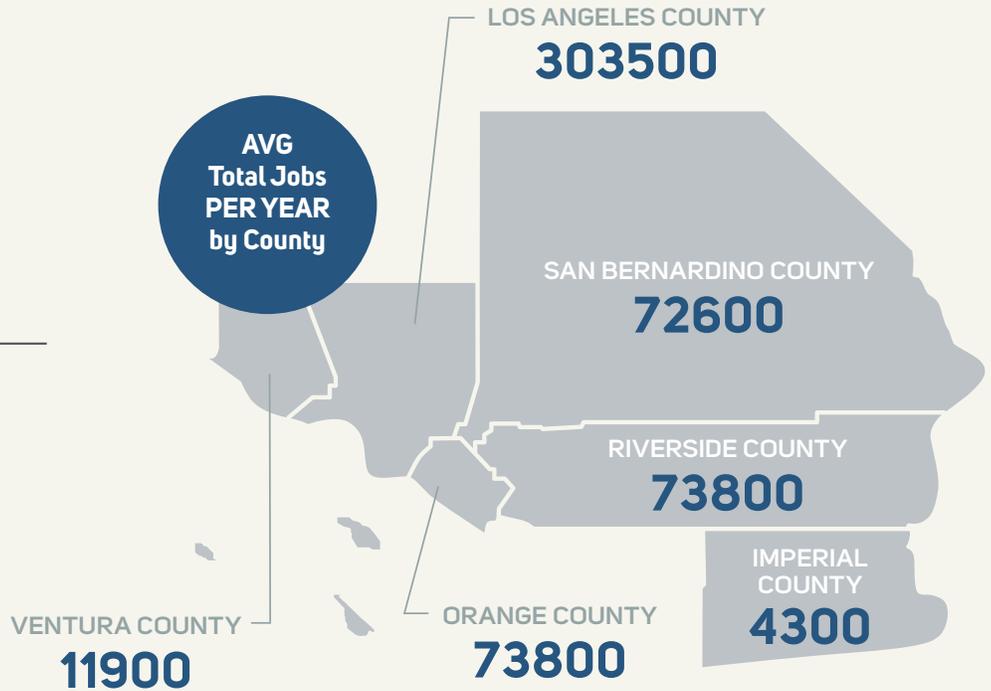
- The Plan would result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035 and a 21 percent reduction by 2040 – compared with 2005 levels. This meets or exceeds the state’s mandated reductions, which are eight percent by 2020 and 13 percent by 2035.
- Regional air quality would improve under the Plan, as cleaner fuels and new vehicle technologies help to significantly reduce many of the pollutants that contribute to smog and other airborne contaminants that may impact public health in the region.
- The combined percentage of work trips made by carpooling, active transportation and public transit would increase by about four percent, with a commensurate reduction in the share of commuters traveling by single occupant vehicle.
- The number of Vehicle Miles Traveled (VMT) per capita would be reduced by more than seven percent and Vehicle Hours Traveled (VHT) per capita by 17 percent (for automobiles and light/medium duty trucks) as a result of more location efficient land use patterns and improved transit service.
- Daily travel by transit would increase by nearly one third, as a result of improved transit service and more transit-oriented development patterns.
- The Plan would reduce delay per capita by 39 percent and heavy-duty truck delay on highways by more than 37 percent. This means we would spend less time sitting in traffic and our goods would move more efficiently.
- More than 351,000 additional new jobs annually would be created, due to the region’s increased competitiveness and improved economic performance that would result from congestion reduction and improvements in regional amenities as a result of implementing the Plan.
- The Plan would reduce the amount of previously undeveloped (greenfield) lands converted to more urbanized uses by 23 percent. By conserving open space and other rural lands, the Plan provides a solid foundation for more sustainable development in the SCAG region.
- The Plan would result in a reduction in our regional obesity rate from 26.3 percent to 25.6 percent in areas experiencing land use changes, and a reduction in the share of our population that suffers with high blood pressure from 21.5 percent to 20.8 percent.

CREATING JOBS IN THE SCAG REGION

539,900

AVG Total JOBS
per year
in the SCAG Region

Total jobs, all sources, construction, operations and maintenance, network benefits, from 2016 RTP/SCS. In comparison, the 2012 RTP/SCS would create 528,500 average total jobs during the life of the plan.



Daily Vehicle Miles Traveled (VMT)

per capita



Baseline to Plan Comparison
-7.4%



Base Year to Plan Comparison
-10.2%

Daily Minutes of Delay

per capita



Baseline to Plan Comparison
-39%



Base Year to Plan Comparison
-22%

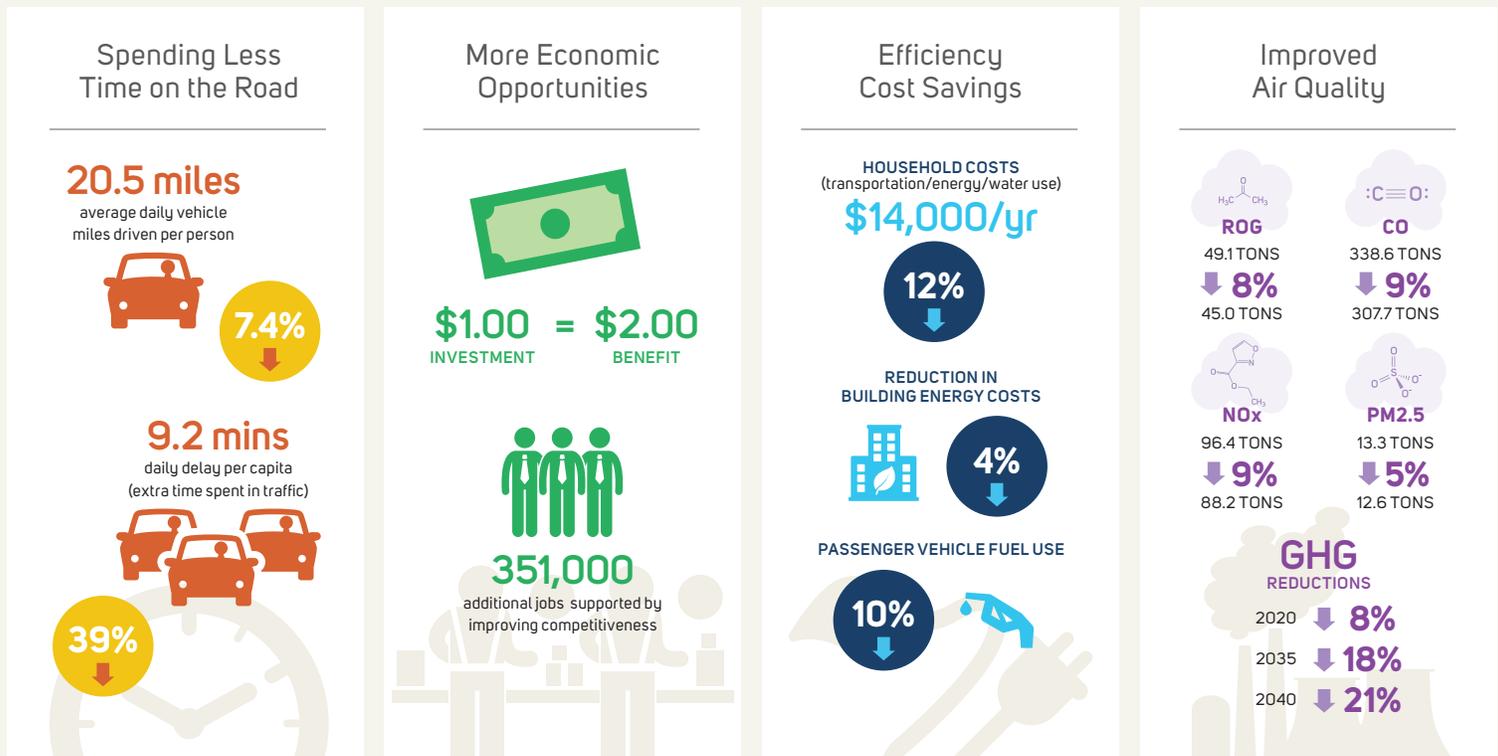
HOW WE WILL ENSURE SUCCESS

Our Plan includes several performance outcomes and measures that are used to gauge our progress toward meeting our goals. These include:

- Location Efficiency, which reflects the degree to which improved land use and transportation coordination strategies impact the movement of people and goods.
- Mobility and Accessibility, which reflects our ability to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices.
- Safety and Health, which recognize that the 2016 RTP/SCS has impacts beyond those that are exclusively transportation-related (e.g., pollution-related disease).
- Environmental Quality, which is measured in terms of criteria pollutants and greenhouse gas emissions.
- Economic Opportunity, which is measured in terms of additional jobs created—as a result of the transportation investments provided through the 2016 RTP/SCS.
- Investment Effectiveness, which indicates the degree to which the Plan’s expenditures generate benefits that transportation users can experience directly.
- Transportation System Sustainability, which reflects how well our transportation system is able to maintain its overall performance over time in an equitable manner with minimum damage to the environment and without compromising the ability of future generations to address their transportation needs.

The 2016 RTP/SCS is designed to ensure that the regional transportation system serves all segments of society. The Plan is subject to numerous performance measures to monitor its progress toward achieving social equity and environmental justice. These measures include accessibility to parks and natural lands, roadway noise impacts, air quality impacts and public health impacts, among many others.

PLAN PERFORMANCE RESULTS



LOOKING BEYOND 2040

The 2016 RTP/SCS is based on a projected budget constrained by the local, state and federal revenues that SCAG anticipates the region receiving between now and 2040. The Strategic Plan discusses projects and strategies that SCAG would pursue if new funding were to become available. The Strategic Plan discussion includes long-term emission reduction strategies for rail and trucks; expanding the region's high-speed and commuter rail systems; expanding active transportation; leveraging technological advances for transportation; addressing further regional reductions in greenhouse gas emissions; and making the region more resilient to climate change—among other topics. We anticipate that these projects and strategies may inform the development of the next Plan, the 2020 RTP/SCS.







MAIN OFFICE

818 West 7th Street, 12th Floor
Los Angeles, CA 90017
(213) 236-1800

www.scag.ca.gov

REGIONAL OFFICES

Imperial County
1405 North Imperial Avenue, Suite 1
El Centro, CA 92243
Phone: (760) 353-7800
Fax: (760) 353-1877

Orange County
OCTA Building
600 South Main Street, Suite 1233
Orange, CA 92868
Phone: (714) 542-3687
Fax: (714) 560-5089

Riverside County
3403 10th Street, Suite 805
Riverside, CA 92501
Phone: (951) 784-1513
Fax: (951) 784-3925

San Bernardino County
Santa Fe Depot
1170 West 3rd Street, Suite 140
San Bernardino, CA 92410
Phone: (909) 806-3556
Fax: (909) 806-3572

Ventura County
950 County Square Drive, Suite 101
Ventura, CA 93003
Phone: (805) 642-2800
Fax: (805) 642-2260



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