SCAG Model Task Force

ALPACA: AN ECONOMIC EVALUATION ADD-ON FOR SCENARIO PLANNING
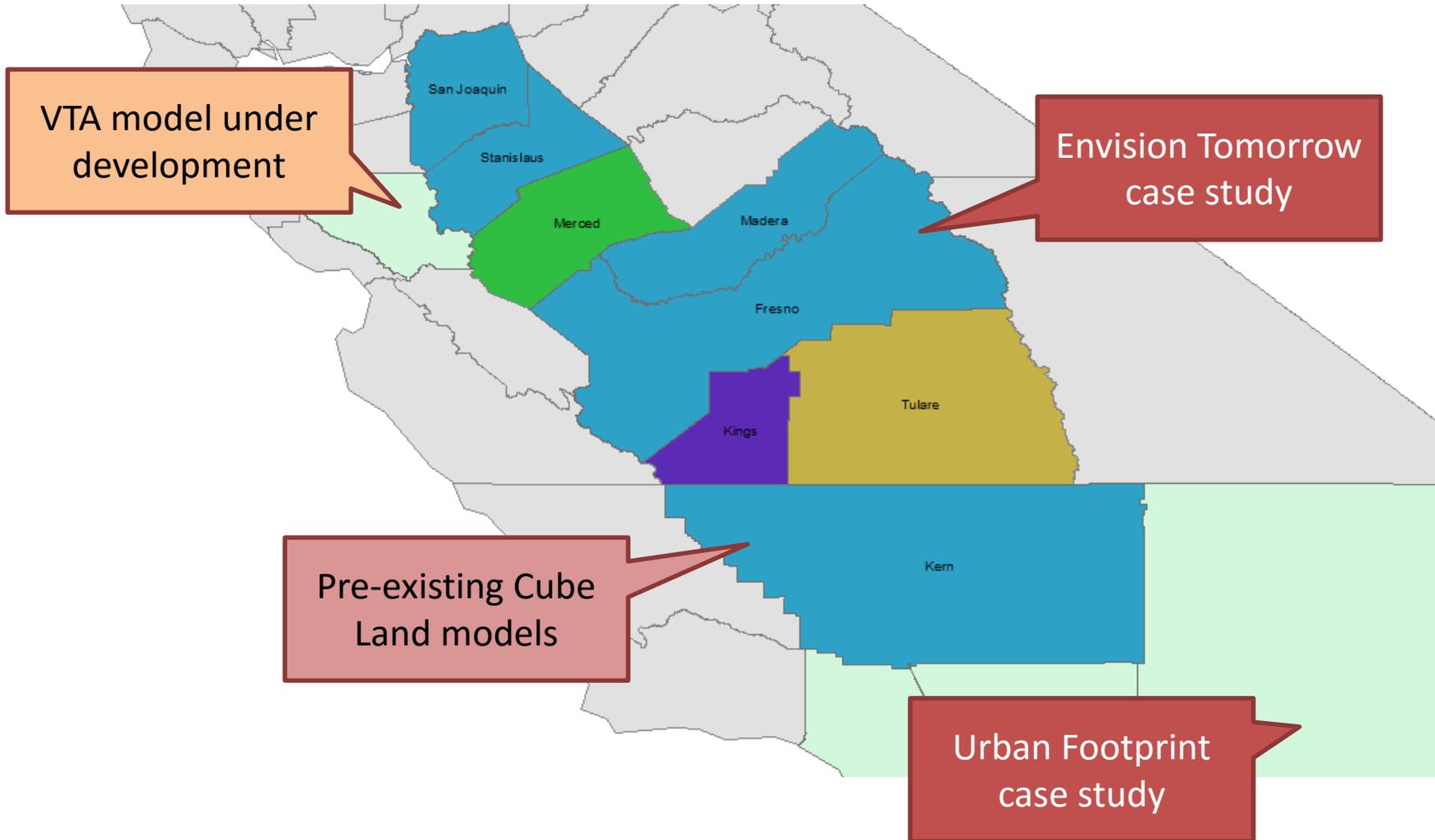
Project Goals

- Integrate bid-rent calculations into scenario planning process (tools & data) across three distinct, independently generated case studies
  - MAPC / CommunityViz
  - FresnoCOG / Envision Tomorrow +
  - SCAG / Urban Footprint
- Investigate effects of new economic measures enabled by these tools on planning process
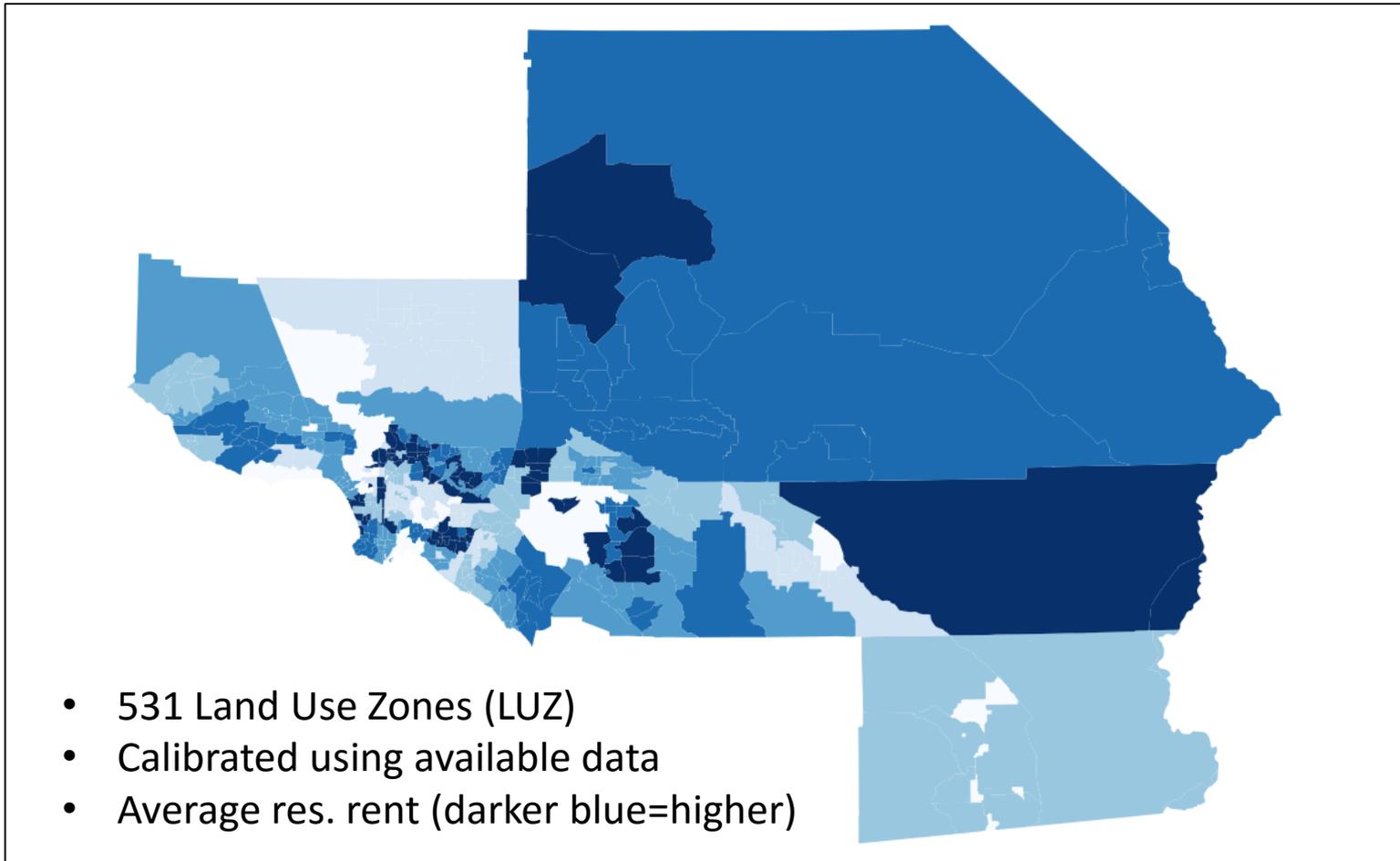
Measures & Topics

- Proposed:
  - Fiscal effects
    - Taxes and subsidies
    - Value capture revenues
  - Affordable housing
  - Income inequality
  - Gentrification
- Others revealed by lit. review & interviews

Bid-Rent Land Models in California

SCAG Cube Land Pilot Study

- 531 Land Use Zones (LUZ)
- Calibrated using available data
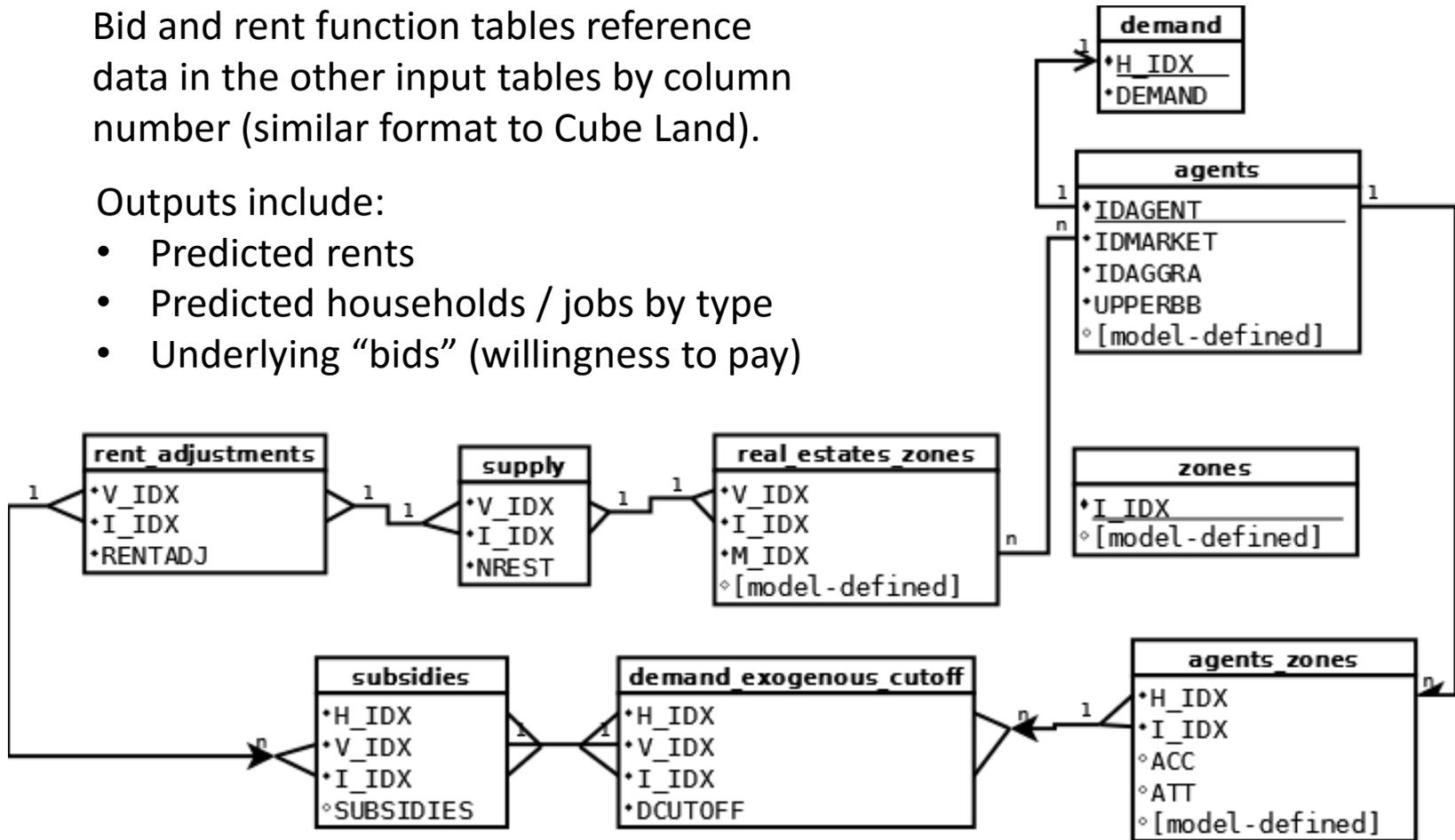- Average res. rent (darker blue=higher)
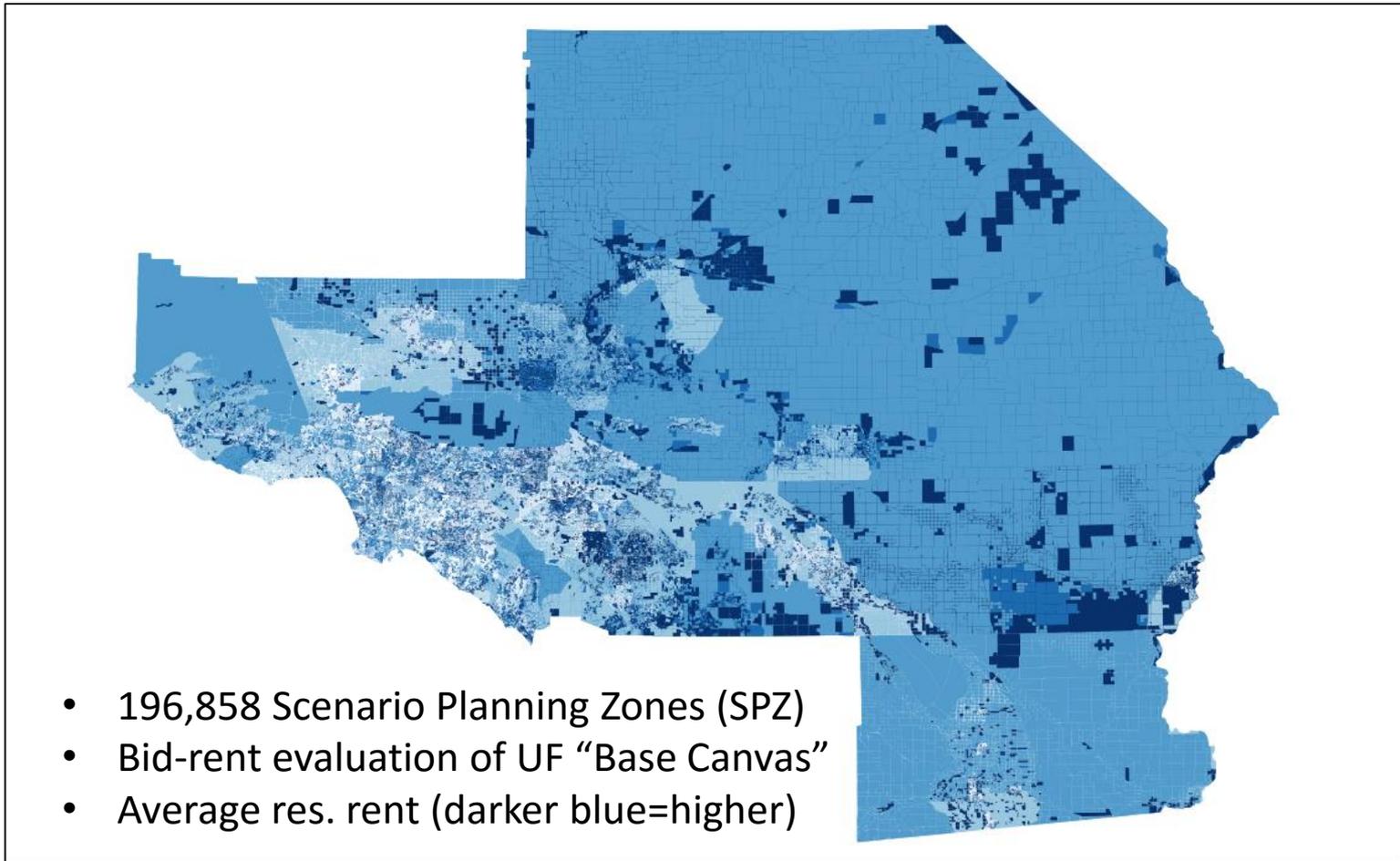
New Bid-Rent Module: "mu-land"

Bid and rent function tables reference data in the other input tables by column number (similar format to Cube Land).
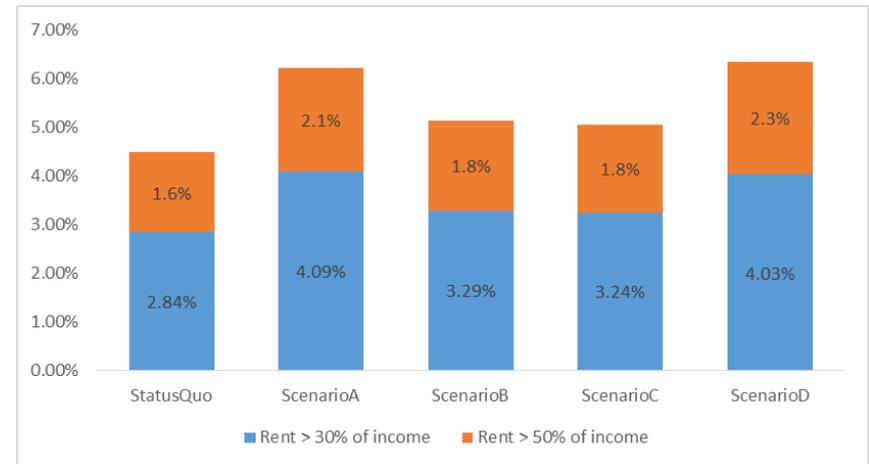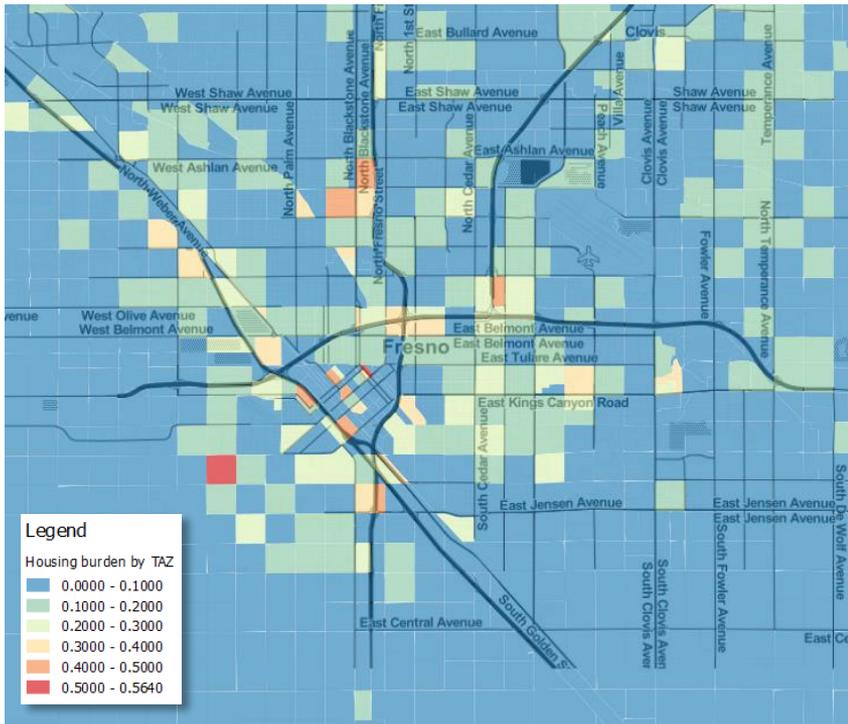
Outputs include:
- Predicted rents
- Predicted households / jobs by type
- Underlying "bids" (willingness to pay)

demand
- *H_IDX
- *DEMAND

agents
- *IDAGENT
- *IDMARKET
- *IDAGGRA
- *UPPERBB
- ◦[model-defined]

zones
- *I_IDX
- ◦[model-defined]

rent_adjustments
- *V_IDX
- *I_IDX
- *RENTADJ

supply
- *V_IDX
- *I_IDX
- *NREST

real_estates_zones
- *V_IDX
- *I_IDX
- *M_IDX
- ◇[model-defined]

subsidies
- *H_IDX
- *V_IDX
- *I_IDX
- ◦SUBSIDIES

demand_exogenous_cutoff
- *H_IDX
- *V_IDX
- *I_IDX
- *DCUTOFF

agents_zones
- *H_IDX
- *I_IDX
- ◦ACC
- ◦ATT
- ◦[model-defined]

"Mu-land" SCAG Case Study

- 196,858 Scenario Planning Zones (SPZ)
- Bid-rent evaluation of UF "Base Canvas"
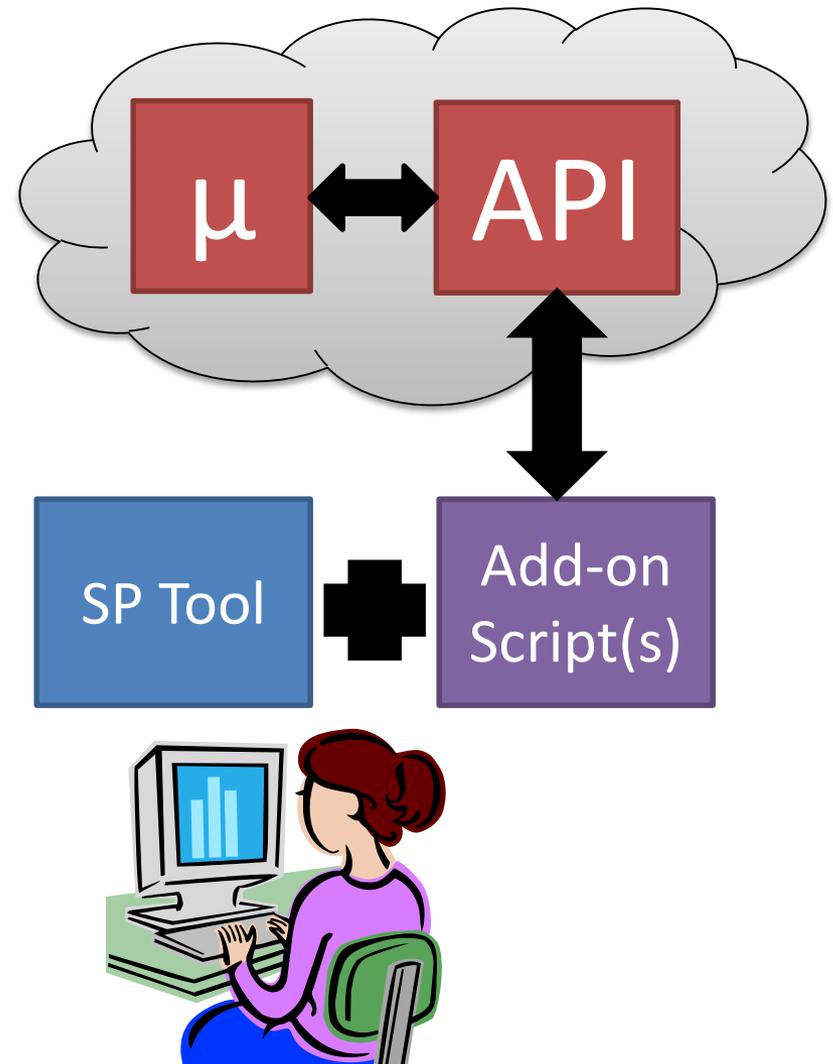- Average res. rent (darker blue=higher)

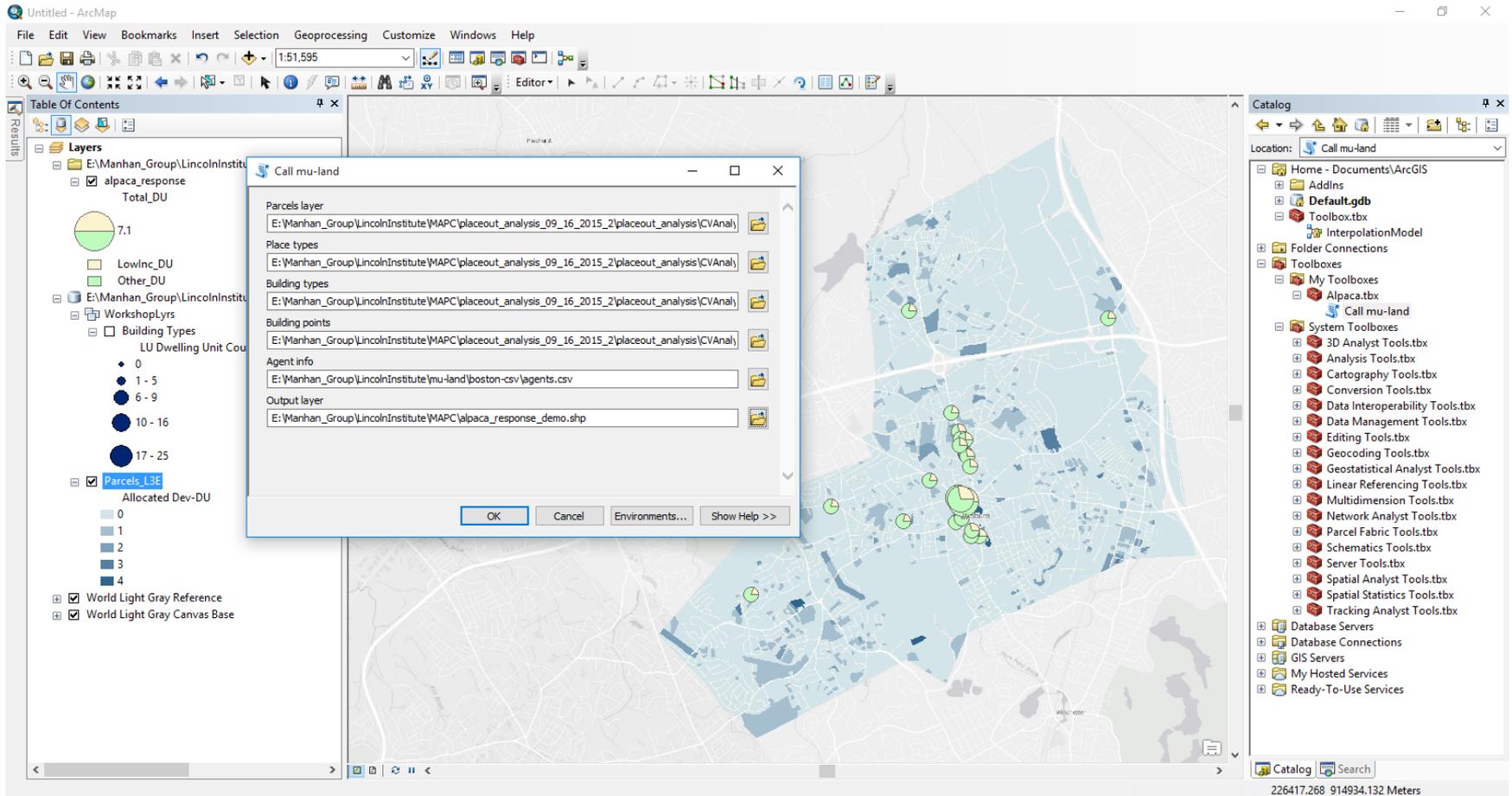# Housing Affordability Case Study

Alpaca Web Service for Mu-Land

- "Wraps" bid-rent functions with a scripting engine to offer API as a service

- Scenario planning tools (such as Urban Footprint) could call this API & get info

Integration with ArcGIS

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