Climate Change and Sustainable Development:
SCAG's 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy

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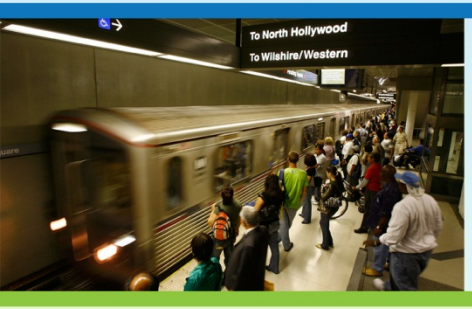
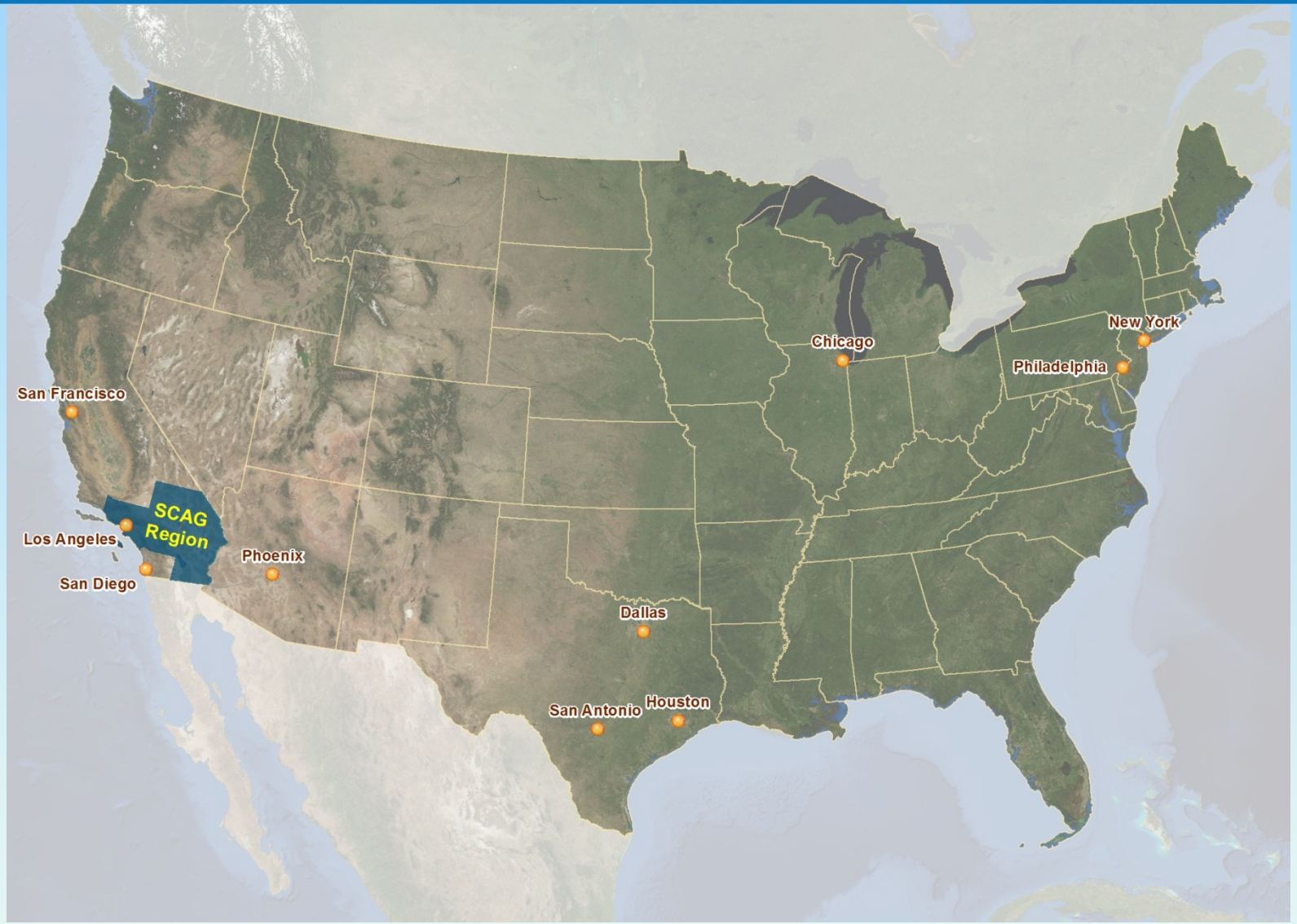


SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

Southern California Association of Governments (SCAG) Region



Southern California Association of Governments (SCAG) Region

Nation's largest Metropolitan Planning Organization (MPO) and Council of Governments (COG)

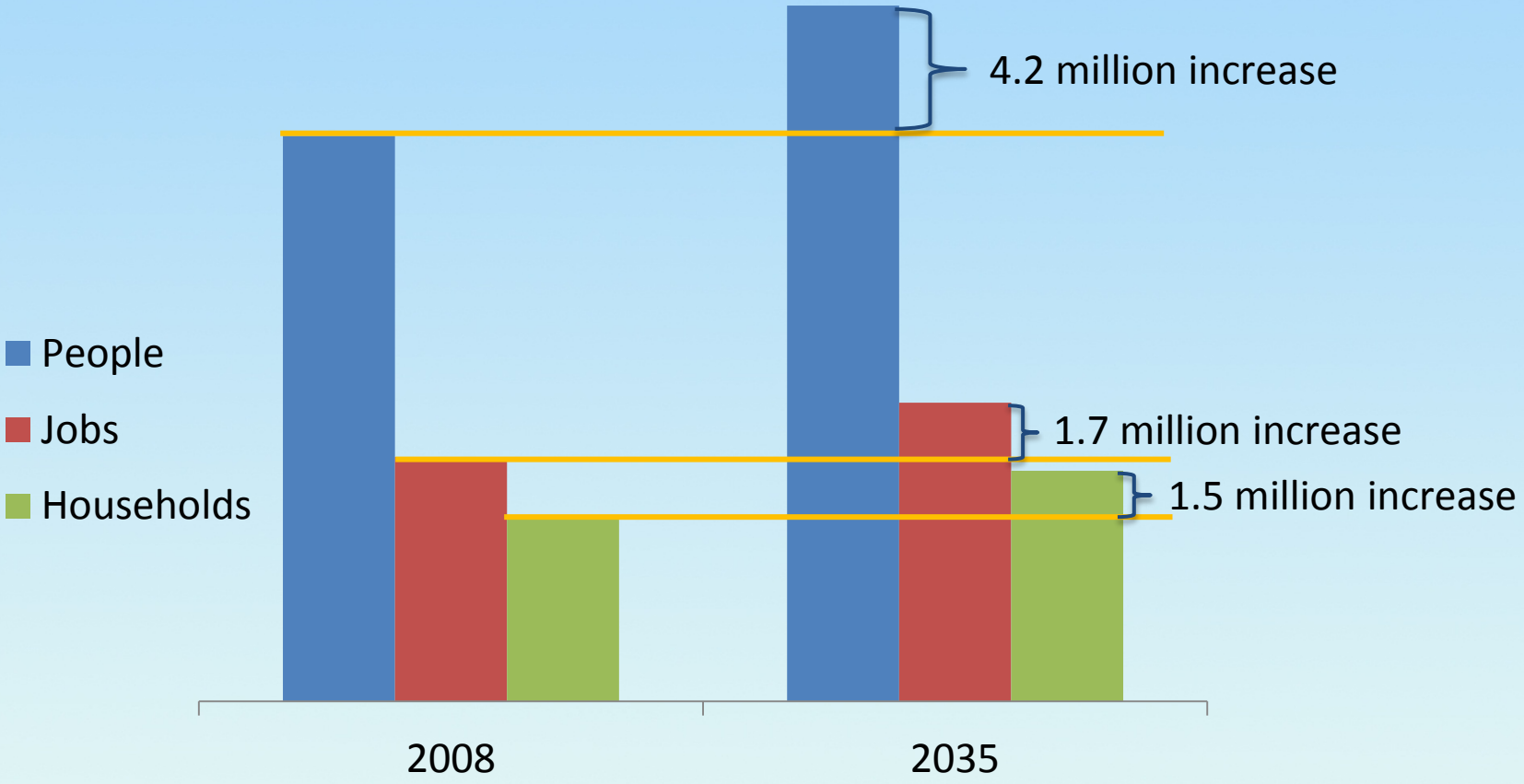
6 counties, 191 cities and over 18 million residents

Governed by a Regional Council of 84 local elected officials

16th largest economy in the world

Nation's global gateway for trade

The region is still growing



This will exacerbate our existing challenges

MOBILITY

The region currently wastes over **3 million** hours each year sitting in traffic

SAFETY

While our roadways are among the nation's safest, **21%** of all traffic fatalities in the region involve pedestrians

AIR QUALITY

Despite improvements made over the years, Southern California continues to have the **worst** air quality in the nation

Why RTP/SCS ?

- Respond to growing segments of the housing market demand due to demographic changes & energy/fuel price increase
- Integrate planning of land use, transportation and housing
- Address greenhouse gas emissions reduction targets required by SB 375
- Through collaboration, contribute to a more sustainable region that benefits the environment, economy and consumers

SCAG Climate & Economic Development Project (CEDP)

- Analyze GHG Emissions Reduction Strategies in accordance with SB 375 & AB 32
  - Determine Cost Effectiveness ($/tCO2e)
  - Regional Macroeconomic Impact of Individual Policy Measures
  - Establish Regional GHG Emissions Inventory & Forecast

SB 375 GHG Reduction & Air Quality Conformity

State Mandate
SB 375 GHG Reduction

Year	Target	Result
2020	8%	**9 %**
2035	13%	**16 %**

Federal Mandate
Air Quality Conformity

The 2012 RTP/SCS **meets all air quality conformity requirements**, including:
Fiscal Constraint
Pollutant Budgets

RTP/SCS Milestones

- Adopted in April 2012
- Certified in June 2012
- Unanimous vote at the SCAG General Assembly Regional Council Meeting

Growth Forecast & RTP/SCS

- The growth forecast is also used for federal and state mandated long-range planning efforts such as the Air Quality Management Plan (AQMP), the Federal Transportation Improvement Program (FTIP), and the Regional Housing Needs Assessment (RHNA).
- SCAG's transportation strategy and transportation control measures (TCMs) are included as part of the AQMP for the South Coast Air Basin.

Land Use/Transportation Strategies → Outcomes & Benefit

- Development Location
- Higher Density / Mixed-Use
- Pedestrian Friendly
- Housing Options and Mix
- Jobs – Housing Balance
- Transit Oriented Development
- Transit
- Passenger and High-Speed Rail
- Active Transportation
- TDM/TSM
- Highways
- Goods Movement

- Better Placemaking through more compact development & varied housing options
- Lower Cost to Taxpayers and Families
- Benefits to Public Health and the Environment
- Greater Responsiveness to Demographics and Changing Housing Market
- Improved Access and Mobility

3 Overarching Strategies

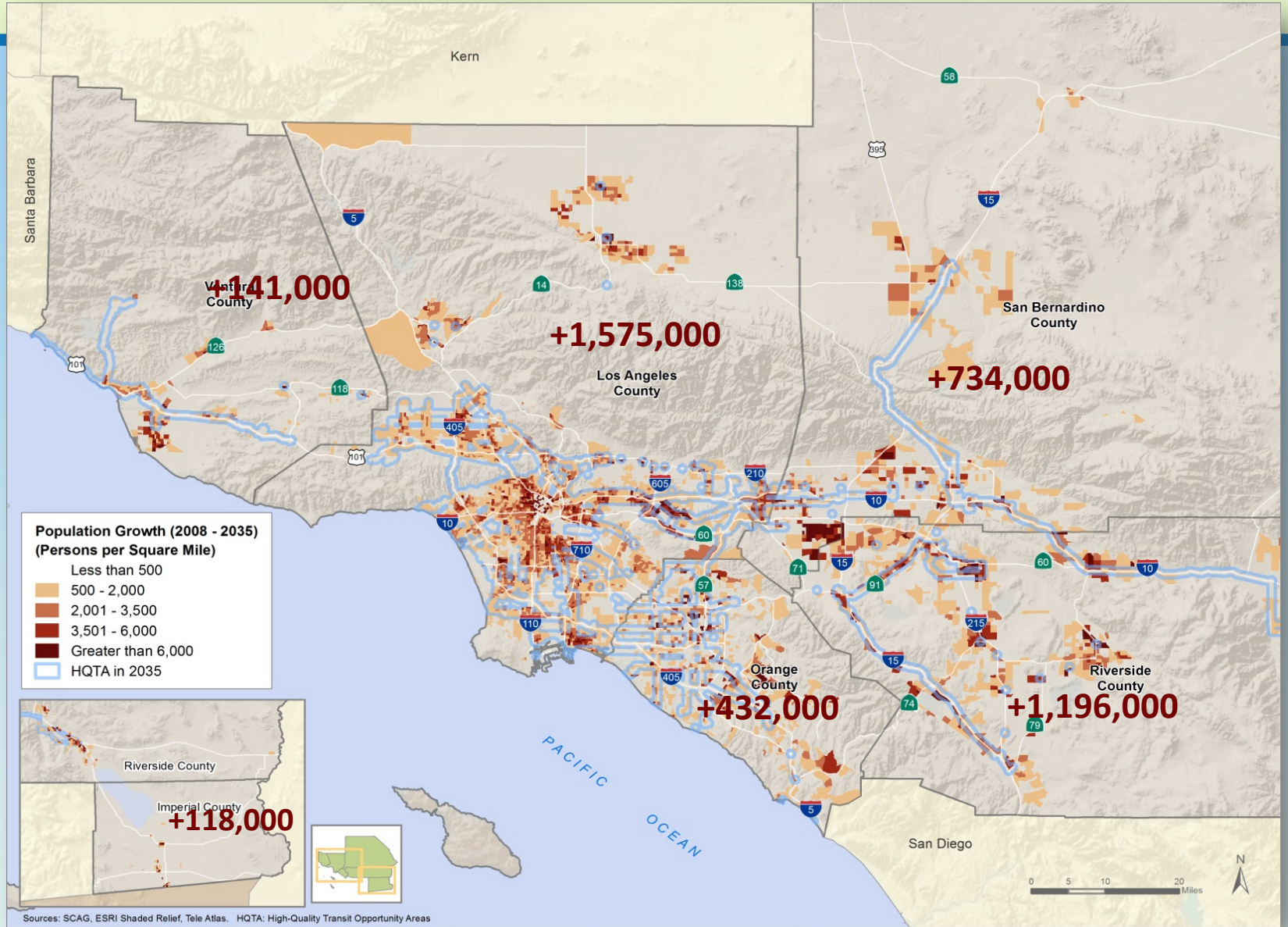
allocate
ONLY 13%
capital investment
to highways

focus over
50%
growth within
3%
land area

FROM 7:3
single- vs. multi-
family units
TO 3:7

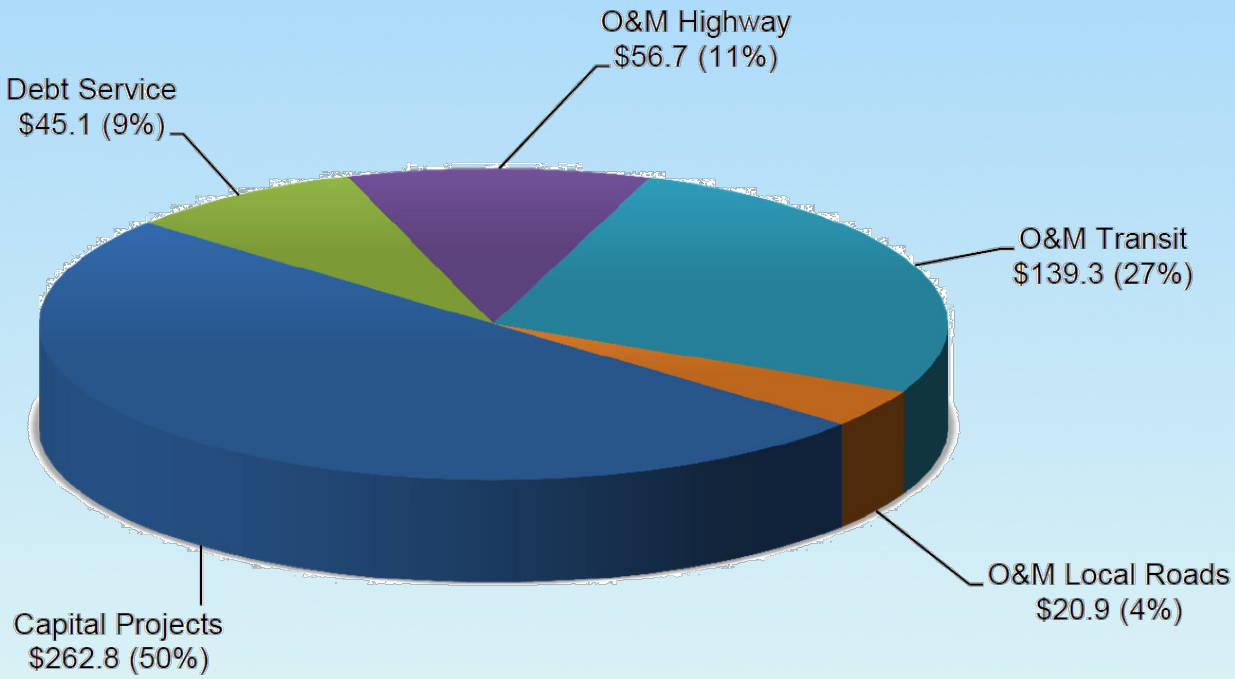
RTP/SCS: High Quality Transit Areas (2035)

RTP/SCS: Population Growth and Land Use

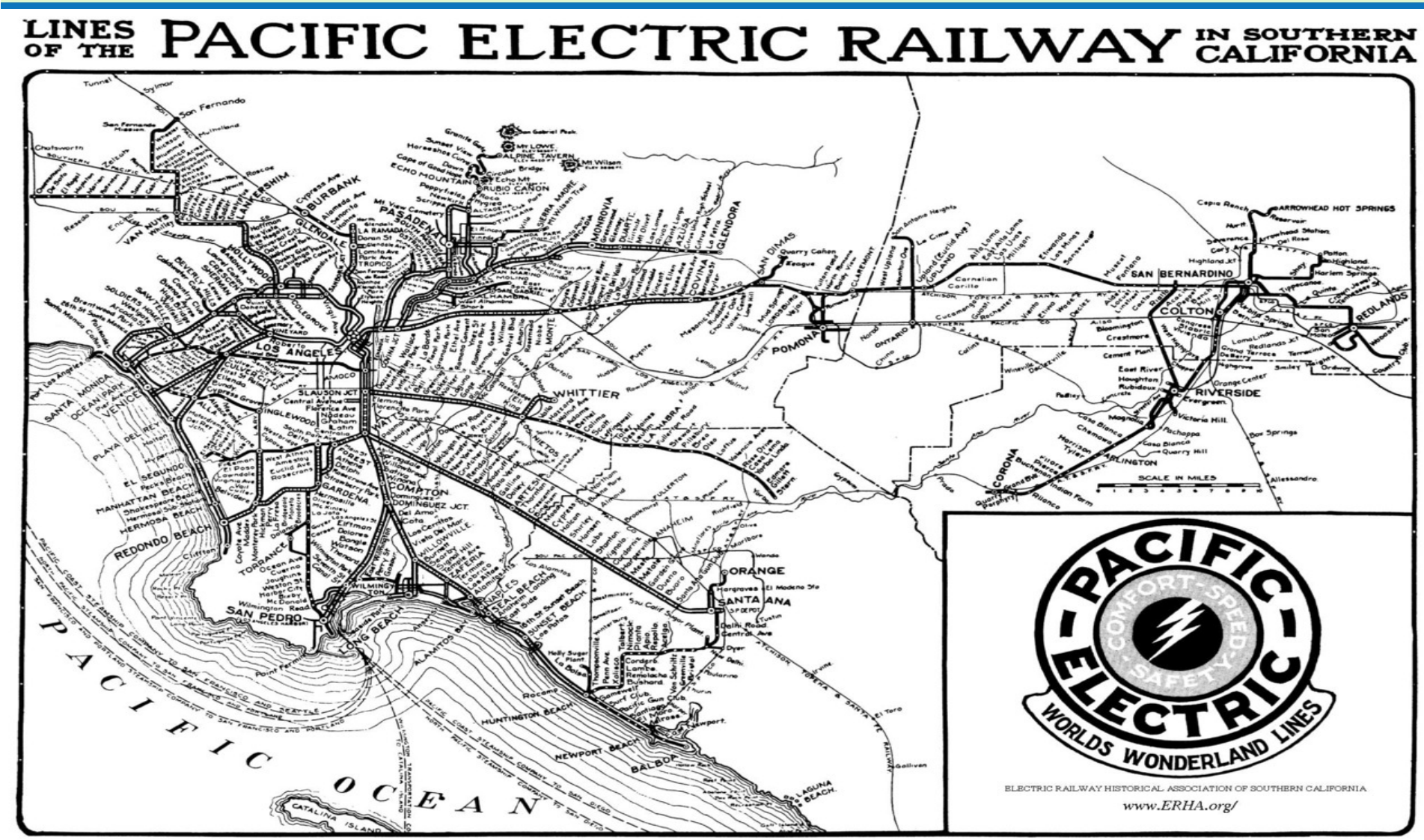


RTP/SCS: Transportation

Capital Projects	
Arterials	$22.1
Grade Sep & GM	$48.4
HOV/HOT	$20.9
Mixed-Flow & I/C	$16.0
Toll	$27.3
TSM	$7.6
Transit	$106.9
Active Trans.	$6.7
TDM	$4.5
Other	$2.5
Total	**$262.8**



Rail Transit Investments - 1925



Rail Transit Investments - 1970

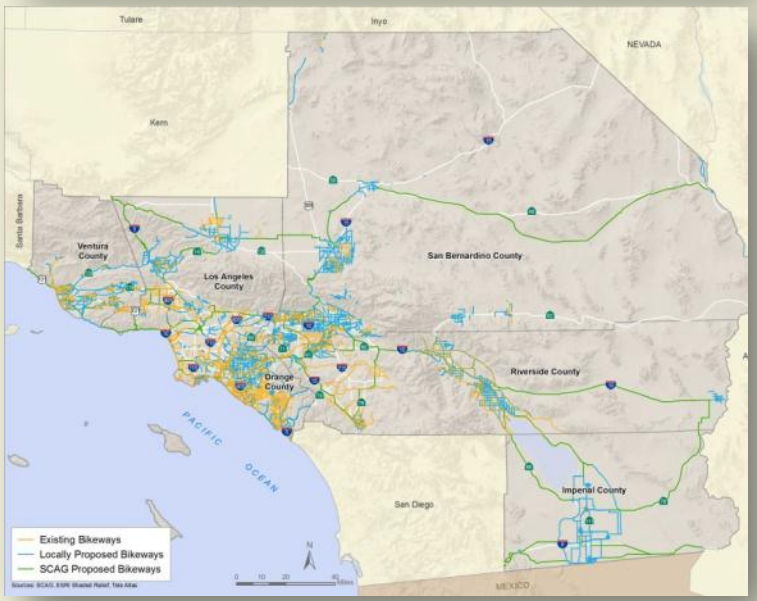
Rail Transit Investments - 1990

Rail Transit Investments - Today

Rail Transit Investments - 2035

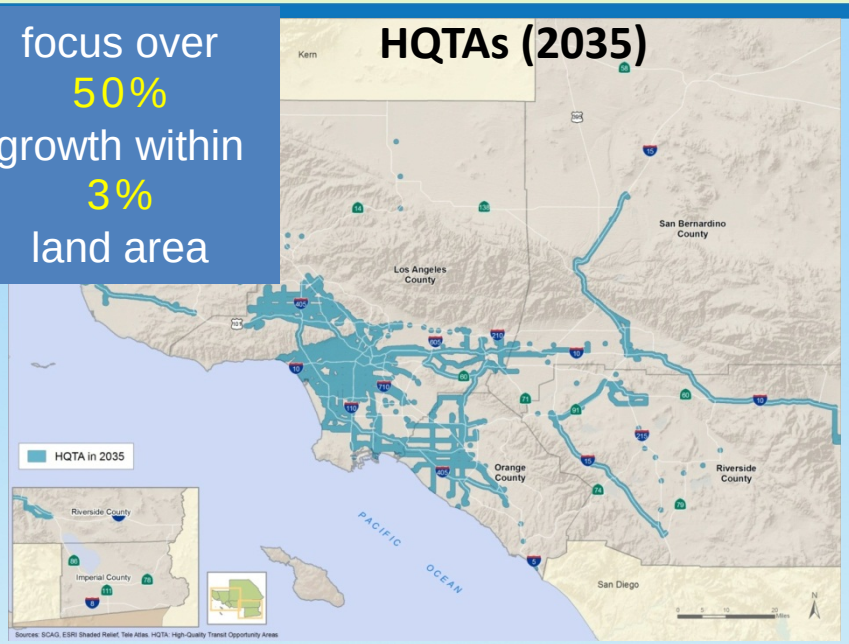
Transportation Demand Management
Active Transportation

TDM	Active Transportation
$4 billion	$6.7 billion
Reduce solo driving Incentivize carpooling, transit, biking, walking, flexible work schedules, telecommuting, First Mile/Last Mile strategies	Bikeways increase from 4,615 to 10,422 miles Other strategies and safety improvements



Outcomes of the RTP/SCS
A More Sustainable Region

focus over
50%
growth within
3%
land area



State Mandate
SB 375 GHG Reduction

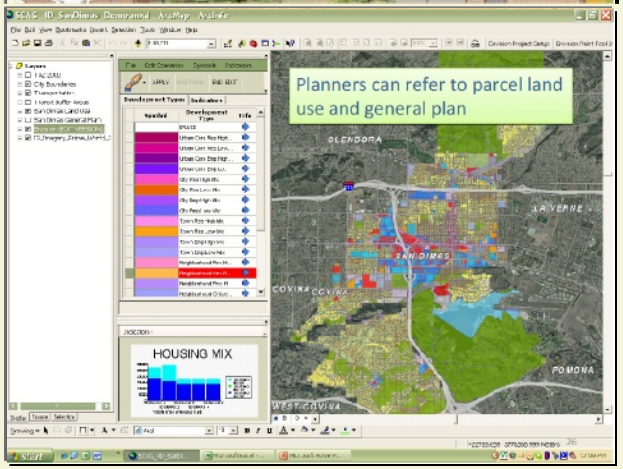
Year	Target	2012 RTP/SCS Results
2020	8%	9%
2035	13%	16%

- Exceeded requirements
- Reduced GHG and VMT
- Improved health outcomes
- Economic growth and jobs
- Fresh outlook on transportation finance
- Many other co-benefits

  -Energy, water, open space conservation

Sustainability Tool

- Local scenario planning tool for cities and counties to analyze the impact of different development types (based primarily on density and mix of uses) on vehicle ownership, VMT, mode use, and associated effects on GHG emissions.
- Helps jurisdictions capture VMT/GHG reductions at small area level.
- Improves local and regional planning decision making.
- The features of the Sustainability Tool:
  - GIS based sketch planning tool.
  - Features real time calculations of various environmental variables that result from land use changes.



Integrated Land Use Model :

Production, Exchange, and Consumption Allocation System (PECAS)

- PECAS is one of the most sophisticated integrated land use models.
- PECAS is a generalized approach for simulating spatial economic systems. It is designed to provide a simulation of the land use component of land use-transport interactive modeling systems.
- PECAS spatially allocates economic production, exchange and consumptions quantities in year t+1 considering 1) study area's economic and demographic totals in year t+1, 2) space prices (and resulting space quantities) in year t, and 3) transport costs (or transport utilities) in year t.

Activity-Based Travel Demand Model

- A new generation of travel demand forecasting model.
- Based on the concept of “travel is a derived demand of activity participation”- people travel in order to access all kinds of activities – working, shopping, visiting friends, ... etc.
- The model simulates each individual’s socio-economic status and travel characteristics.
- The model is more sensitive to policy change than the current trip-based model.
  - It more accurately captures the travel activities of individuals.

SCAG Planning Efforts with REMI Model

- Congestion Pricing Alternatives
  - Estimate Relationship between regional economy and congestion.
  - Economic impacts from various pricing alternatives (e.g., express lane network, mileage-based user-fees, and cordon pricing scenarios).
- Regional Goods Movement Initiatives
  - Assess delay reductions for trucks and autos resulting from proposed East West Freight Corridor (dedicated truck lanes) and strategic bottleneck relief strategies.
  - Economic impacts of rail grade crossing separation projects and freight rail capacity improvements.
- Proposed State Legislation
  - Estimate dynamic economic and fiscal impacts from various tax credit instruments to promote international trade in California.

Conclusions (1)

- SB 375 relies on the existing framework of developing a regional transportation plan to achieve the regional target emissions reduction.
- Regional MPOs and CARB collaboratively worked together to implement the standard modeling practice. As a result of a collaborative process and a bottom-up approach, MPOs developed a “draft” regional emissions target, and CARB adopted a (higher) regional emissions target based on the draft target.
- A new planning emphasis of the RTP/SCS is TOD, Transit, TDM, Active Transportation.

Conclusions (2)

- SCAG has made good progress in enhancing the current four step transportation demand model and developing PECAS, ABM, ST, etc.
- The PECAS model showed a visible impact of the gasoline tax increase on the average distance of travel.
- The newly developed parcel-based ST has a great potential for future use due to its sensitivity to land use changes.
- SCAG used REMI model for economic impact analysis of transportation investments and other policy options.

Conclusions (3)

- The effective SCS implementation would be a challenging task due to a lack of well-designed incentives for SCS implementation.
- As Southern California Leadership Council (2010) indicates, SB 375 is “an unfunded state mandate for local governments to reduce emissions from cars and light trucks in land use and transportation planning and programs”.
- A limited amount of financial funding would limit the effectiveness of the SB 375 implementation. Additional funding would be needed from the state, but financial incentives from the state for TOD would be unavailable during the period of economic recession.

Thank you!

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