



2016  
2040 RTPSCS  
ENVIRONMENTAL JUSTICE

Modeling Task Force  
July 27, 2016

A Presentation by the Southern California Association of Governments

# Overview



- Background on Environmental Justice
- Outreach
- Methodology/Analysis
- Environmental Justice Toolbox

# Background on Environmental Justice

## Fundamental Principles



- To **ensure the full and fair participation** by all potentially affected communities in the transportation decision-making process
- To **avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations**
- To **prevent the denial of, reduction in, or significant delay in the receipt of benefits** by minority and low-income populations

- U.S. Department of Transportation, An Overview of Transportation and Environmental Justice

# Background on Environmental Justice

## Guiding Documents:

- Title VI of the Civil Rights Act of 1964
- Executive Order 12898 (1994)
- US Department of Transportation Order (1997)
  - Federal Highway Administration Order (1998)
  - Memorandum: Implementing Title VI Requirements in Metropolitan and Statewide Planning (1999)
- FTA Circular Title VI Guidelines (2007, 2011, 2012)
  - FTA Circular 4703.1 on Environmental Justice (2012)
  - SCAG's Environmental Justice Compliance Procedures (2000)
  - SCAG's Public Participation Plan (2014)



# Background on Environmental Justice

## SCAG's Environmental Justice Policy



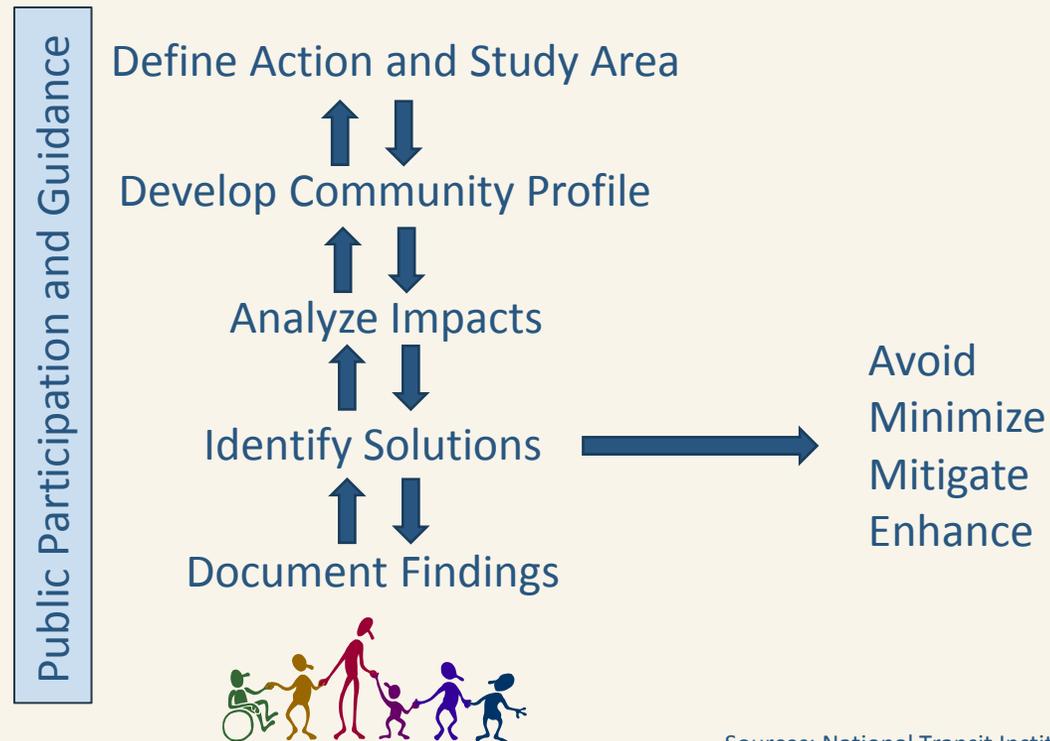
- When disproportionately high and adverse impacts on minority or low-income populations are identified, SCAG takes steps to consider alternative approaches or propose mitigation measures for the SCAG region
- Continues to evaluate and respond to environmental justice issues that arise during and after the implementation of SCAG's regional plans
- If disproportionate impacts are found, SCAG will analyze the impacts and identify potential solutions to incorporate into the long-range transportation plan.

# Background on Environmental Justice

## Federal Guidance for Metropolitan Planning Organizations (MPOs)

- Analysis is Plan Specific - MPOs must conduct an evaluation of system-level environmental justice impacts from a collection of projects in long-range plans
- Environmental justice should also be considered when long-range plans are moved into the short-range Transportation Improvement Program (TIP) or State Transportation Improvement Program (STIP)

### Assessment Process



# Outreach

NOVEMBER  
2014

- EJ Workshop #1

APRIL 2015

- EJ Workshop #2
- EJ Workshop #3

JULY 2015

- 8 Focus Groups
- 2 Interviews

AUGUST  
2015

- EJ Workshop #4
- EJ Workshop #5

# Methodology/Analysis

## Identifying EJ Population Groups

### Minority:

- *A person who is African American, Hispanic or Latino, Asian American, American Indian, Alaskan Native, Native Hawaiian and Other Pacific Islander*

### Low-Income:

- *A person whose median income is at or below the Department of Health and Human Services (HHS) poverty guidelines*

### Other Groups:

- *Non-English speakers, Households without vehicles, Population without a high school degree or equivalent, Disabled individuals, Seniors, ages 65 and over, Young children, ages 4 and under*

# Methodology/Analysis

## Regional, Local, and Community Analysis

### Regional Analysis:

- *Appropriate when determining system-wide impacts (e.g. Financial Benefits and Burdens)*

### Localized Analysis:

- *Appropriate for determining adverse impacts at the community level (emissions, noise, etc.)*

### Community Analysis:

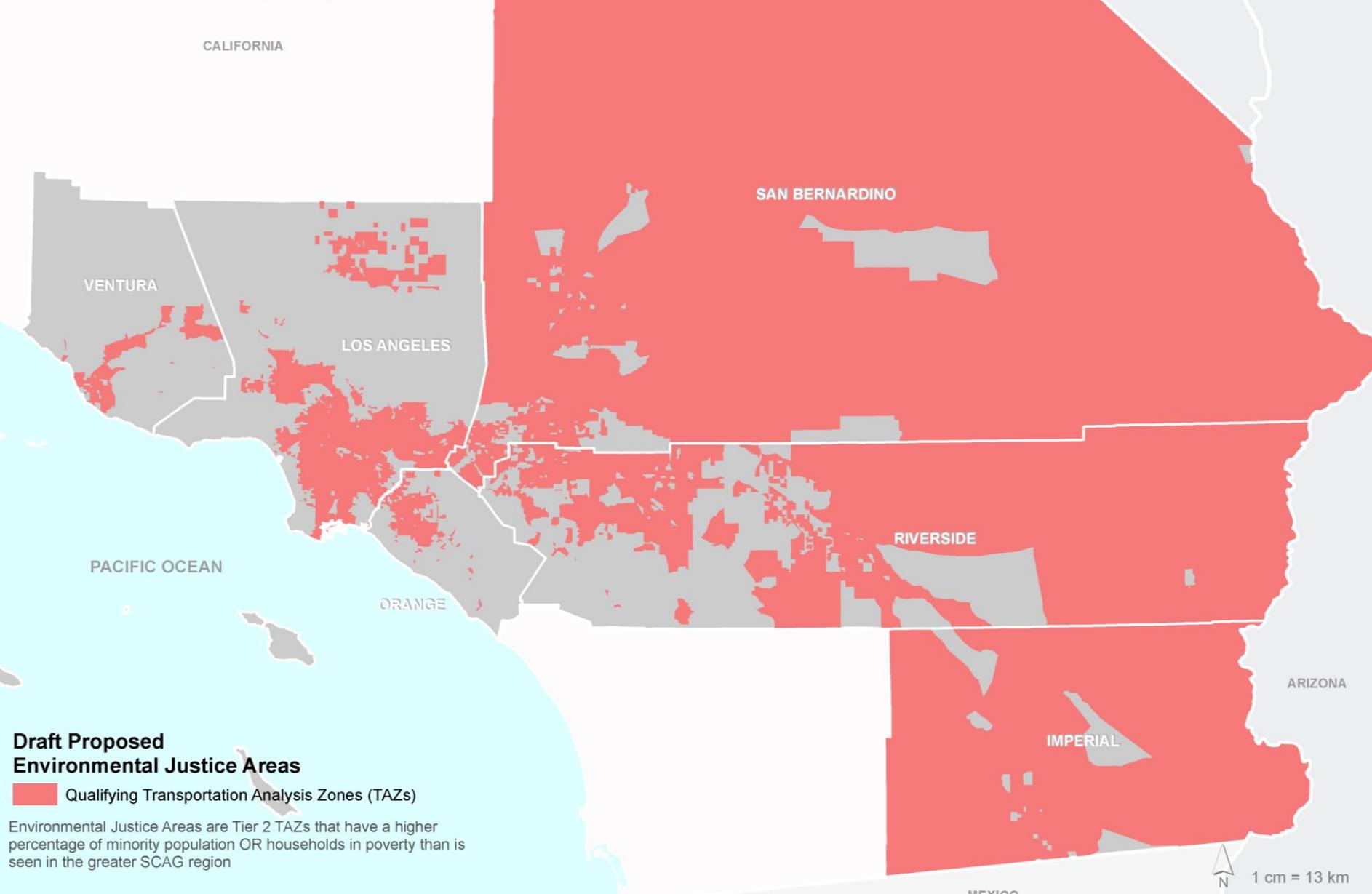
- *Appropriate for tabulating impacts of the RTP/SCS in selected places according to a “Communities of Concern” approach*

# Community Analysis

- **Environmental Justice Areas** - *Transportation Analysis Zones (TAZs)*, which are similar to block groups, that have a ***higher concentration of minority OR low income households*** than is seen in the region as a whole. The inclusion of this geography helps to fulfill SCAG's Title VI requirements, along with other state and federal environmental justice guidelines
- **SB 535 Disadvantaged Areas** – *Census tracts* that have been identified by *Cal/EPA as Disadvantaged Communities* based on the requirements set forth in SB 535, which seek to identify areas disproportionately burdened by and vulnerable to multiple sources of pollution
- **Communities of Concern** – *Census Designated Places (CDPs) and City of Los Angeles Community Planning Areas (CPAs)* that fall in the upper 1/3<sup>rd</sup> of all communities in the SCAG Region for having the ***highest concentration of minority population AND low income households***



**ENVIRONMENTAL JUSTICE AREAS**  
(2009-13 American Community Survey 5-Year Estimates)



**Draft Proposed Environmental Justice Areas**

■ Qualifying Transportation Analysis Zones (TAZs)

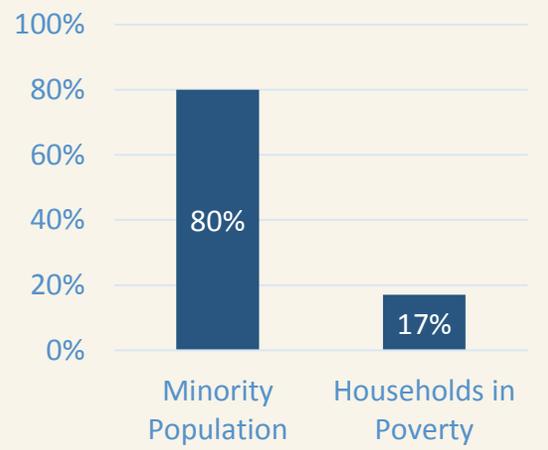
Environmental Justice Areas are Tier 2 TAZs that have a higher percentage of minority population OR households in poverty than is seen in the greater SCAG region

Sources: SCAG, 2014; 2009-2013 American Community Survey (ACS), U.S. Census Bureau

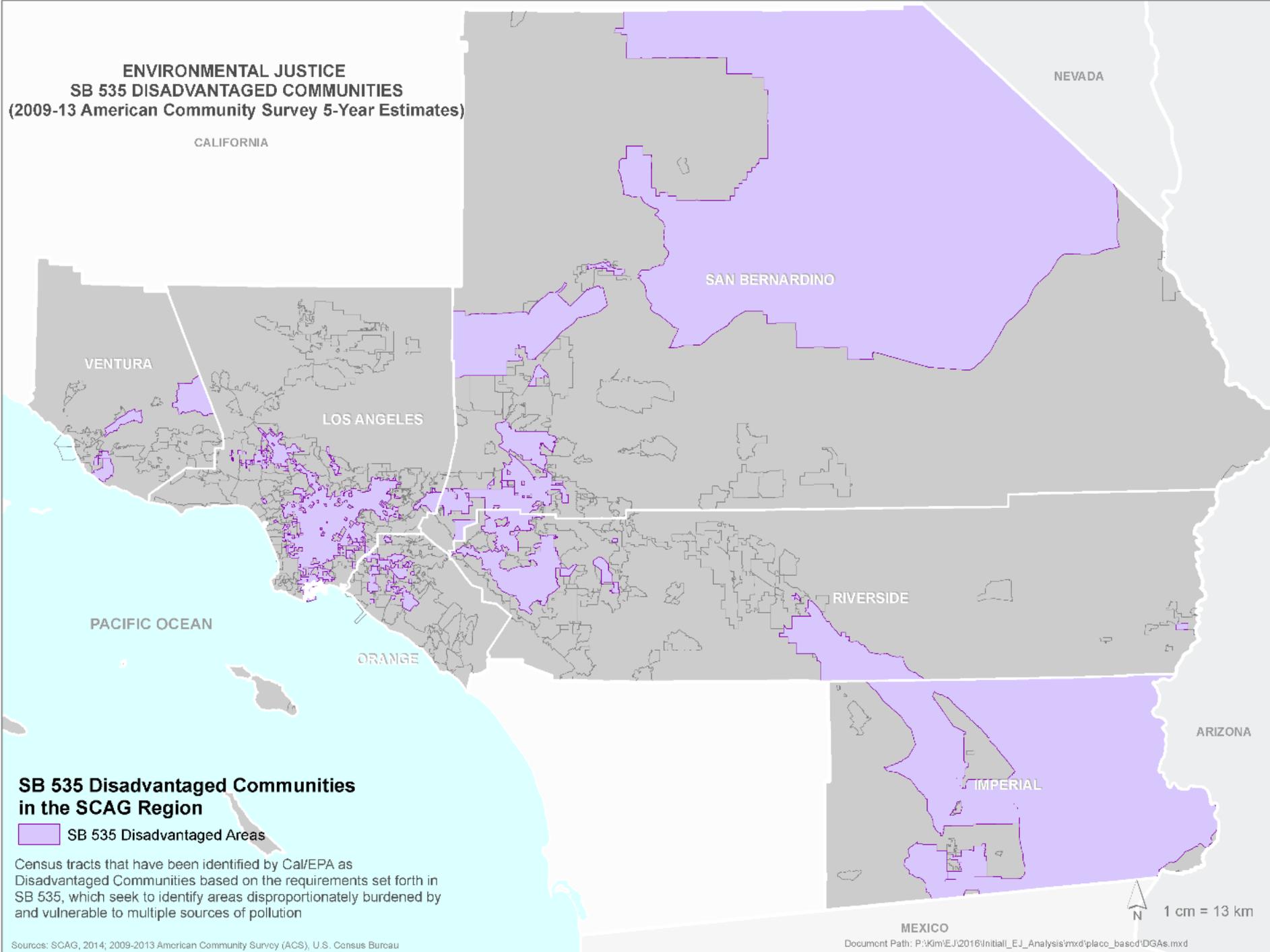
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**12.4 Million People**

**68% of Region**

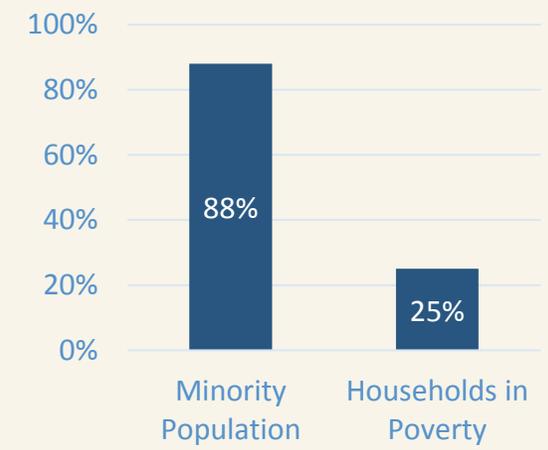


**ENVIRONMENTAL JUSTICE  
SB 535 DISADVANTAGED COMMUNITIES  
(2009-13 American Community Survey 5-Year Estimates)**



**6.4 Million  
People**

**35%  
of Region**



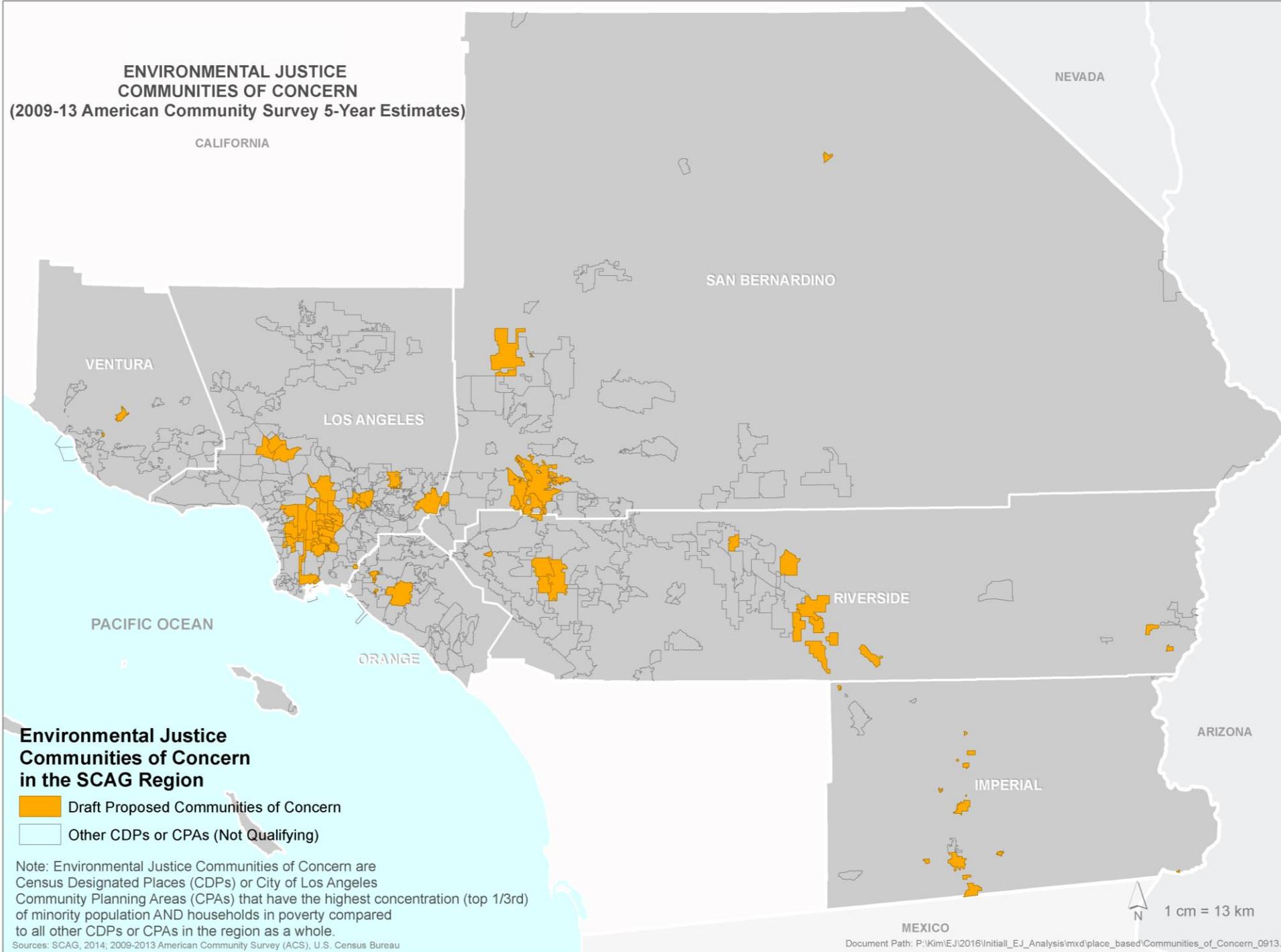
**SB 535 Disadvantaged Communities  
in the SCAG Region**

SB 535 Disadvantaged Areas  
 Census tracts that have been identified by Cal/EPA as Disadvantaged Communities based on the requirements set forth in SB 535, which seek to identify areas disproportionately burdened by and vulnerable to multiple sources of pollution

Sources: SCAG, 2014; 2009-2013 American Community Survey (ACS), U.S. Census Bureau

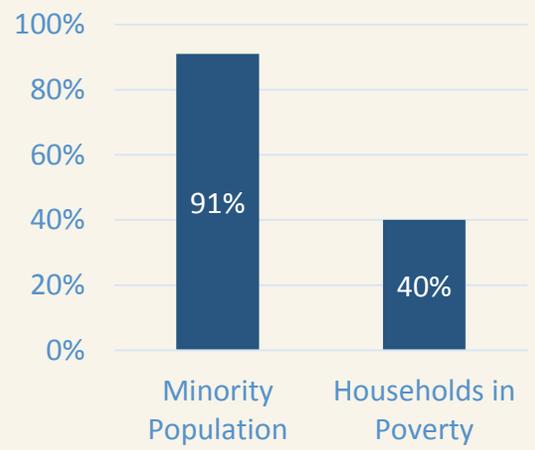
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**ENVIRONMENTAL JUSTICE  
COMMUNITIES OF CONCERN**  
(2009-13 American Community Survey 5-Year Estimates)



**4.2 Million  
People**

**23%  
of Region**



**Environmental Justice  
Communities of Concern  
in the SCAG Region**

- Draft Proposed Communities of Concern
- Other CDPs or CPAs (Not Qualifying)

Note: Environmental Justice Communities of Concern are Census Designated Places (CDPs) or City of Los Angeles Community Planning Areas (CPAs) that have the highest concentration (top 1/3rd) of minority population AND households in poverty compared to all other CDPs or CPAs in the region as a whole.  
Sources: SCAG, 2014; 2009-2013 American Community Survey (ACS), U.S. Census Bureau

N  
1 cm = 13 km

Imperial County

Brawley

Calexico

Calipatria

Desert Shores

El Centro

Heber

Holtville

Niland

Seeley

Westmorland

Winterhaven

Los Angeles County

Alondra Park

Arleta - Pacoima

Azusa

Bell

Bell Gardens

Boyle Heights

Central City North

Commerce

Compton

Cudahy

East Los Angeles

East Rancho Dominguez

El Monte

Florence-Graham

Harbor Gateway

Hawaiian Gardens

Hawthorne

Huntington Park

Inglewood

Lennox

Lynwood

Los Angeles County (Con't)

Maywood

Mission Hills - Panorama City - North Hills

Northeast Los Angeles

Paramount

Pomona

Rosemead

South El Monte

South Gate

South Los Angeles

Southeast Los Angeles

Sun Valley - La Tuna Canyon

Vernon

Walnut Park

West Adams - Baldwin Hills - Leimert

West Athens

West Rancho Dominguez

Westlake

Westmont

Willowbrook

Wilmington - Harbor City

Orange County

Midway City

Santa Ana

Stanton

Riverside County

Coachella

Garnet

Good Hope

Highgrove

Home Gardens

Indio Hills

Mead Valley

Mecca

Mesa Verde

North Shore

Oasis

Perris

Ripley

Thermal

Vista Santa Rosa

San Bernardino County

Adelanto

Baker

Bloomington

Colton

Montclair

Muscoy

Rialto

San Bernardino

Ventura County

Santa Paula

Saticoy

4.2 Million  
People  
23%  
of Region



DRAFT PROPOSED ENVIRONMENTAL JUSTICE COMMUNITIES OF CONCERN (2016-2030 American Community Survey 5-Year Estimates)

CALIFORNIA

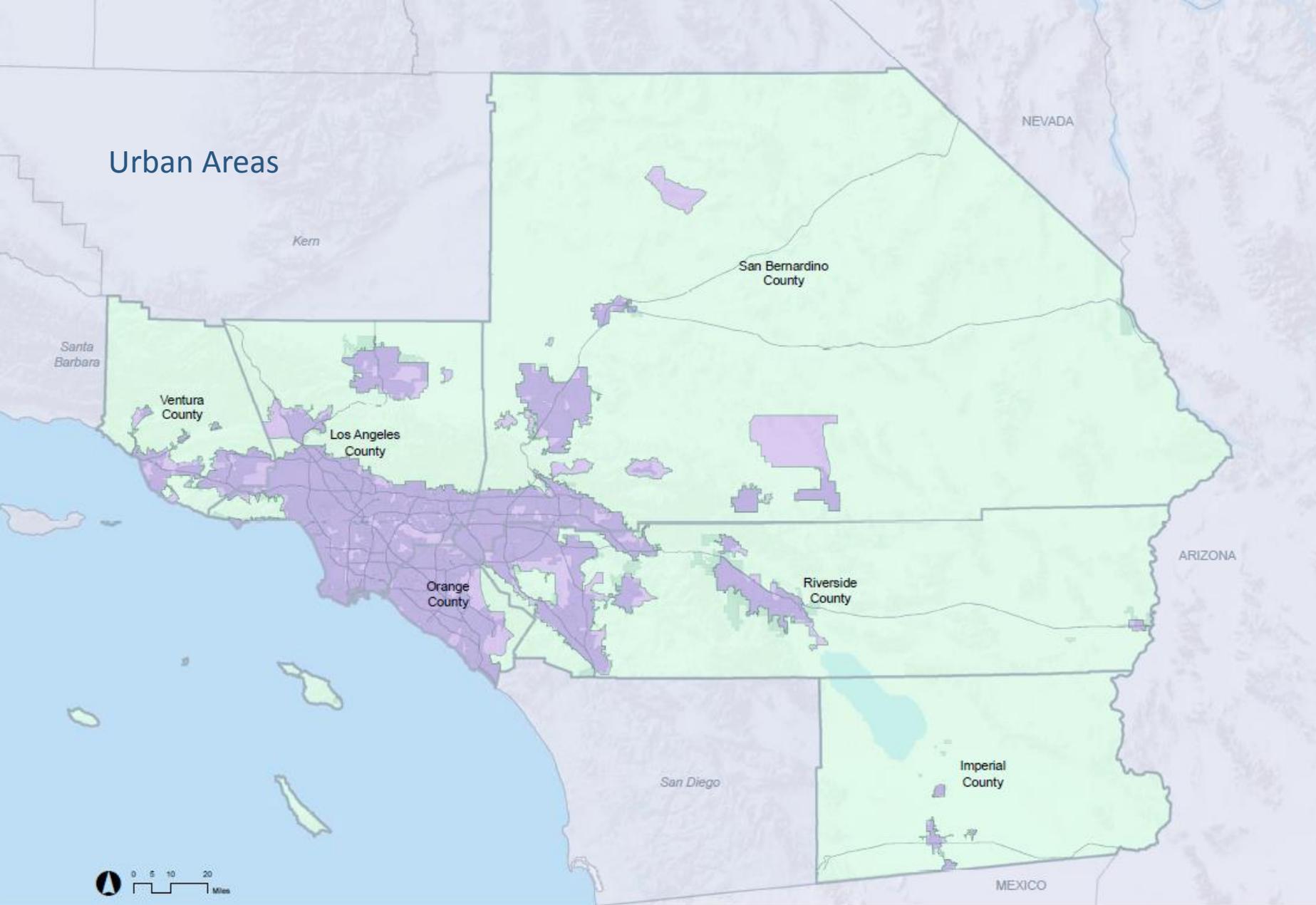
VENTURA

PACIFIC OCEAN

Environmental Justice Communities of Concern in the SCAG Region

Draft Proposed Communities of Concern (Dark Blue)  
Other CDPs or CPAs (Not Qualifying) (Light Blue)

Note: Environmental Justice Communities of Concern are Census Designated Places (CDPs) or City of Los Angeles Community Planning Areas (CPAs) that have a concentration (top 1/3rd) of minority population AND households in poverty compared to all other CDPs or CPAs in the region as a whole.  
Sources: SCAG, 2014, 2009-2013 American Community Survey



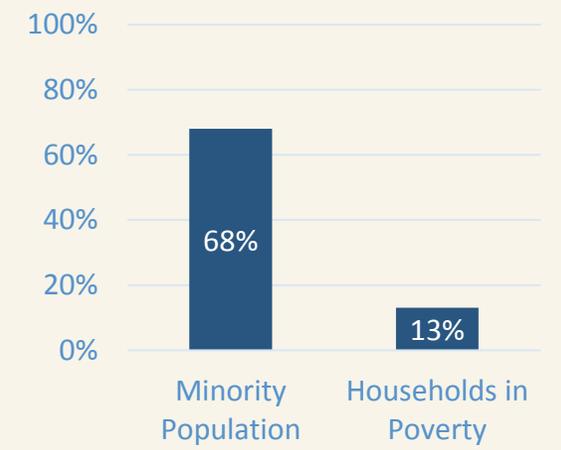
**Environmental Justice**  
**Urban and Rural Areas in the SCAG Region**

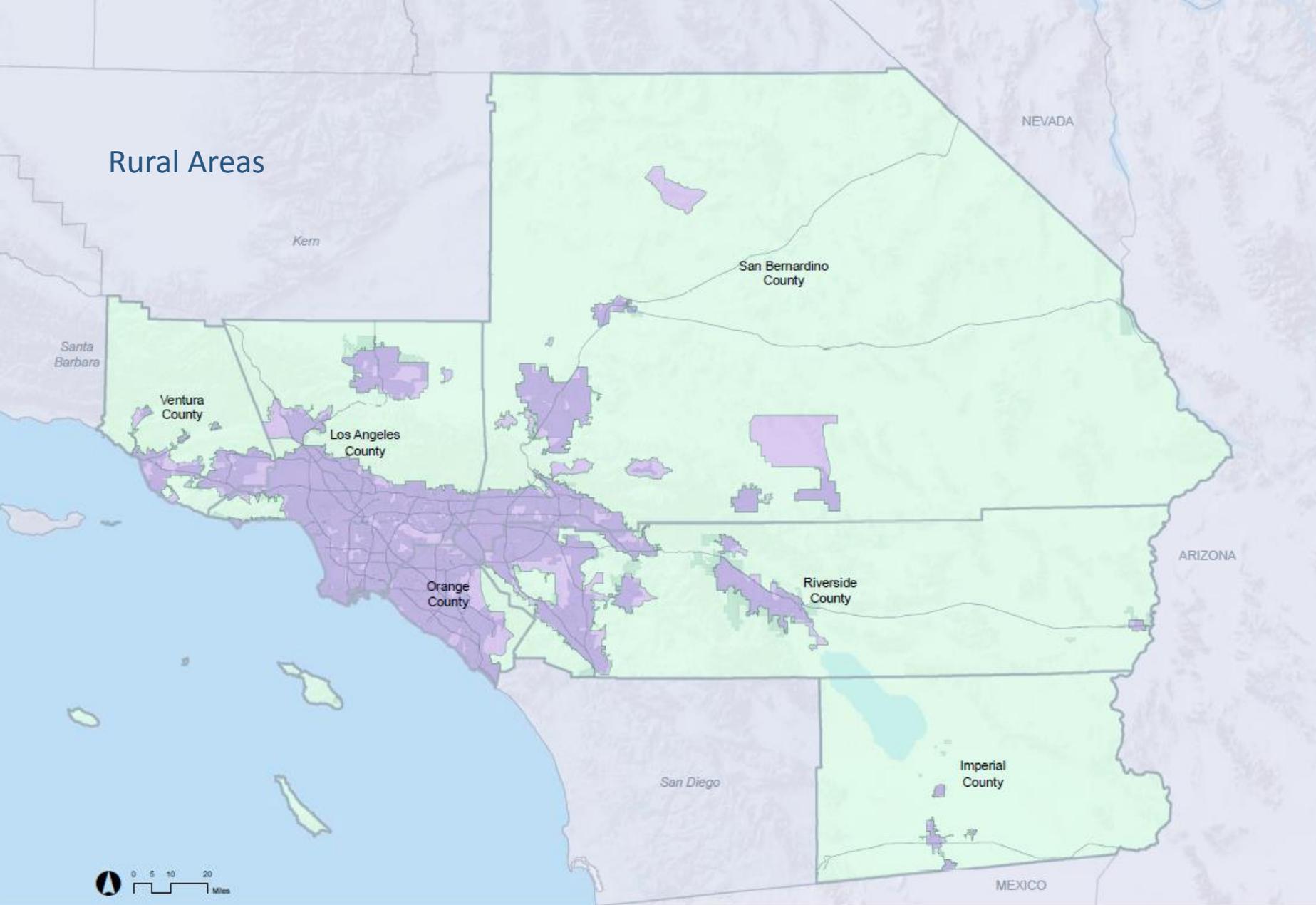
Urban Rural

(Source: SCAG, 2015; Caltrans, U.S. Census Bureau)

# 17.9 Million People

# 98% of Region

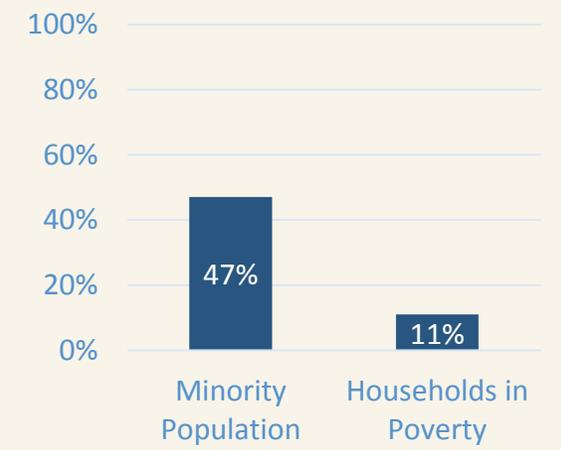




Rural Areas

**434,000  
People**

**2%  
of Region**



**Environmental Justice  
Urban and Rural Areas in the SCAG Region**

Urban Rural

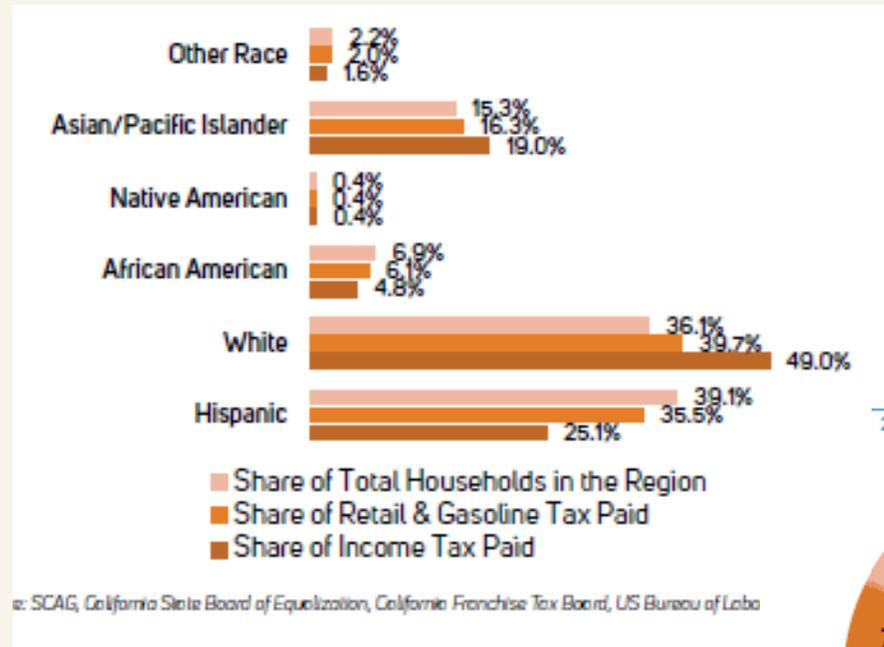
(Source: SCAG, 2015; Caltrans, U.S. Census Bureau)

# Performance Indicators

- Benefits and Burdens Analysis
  - RTP revenue sources in terms of tax burdens
  - Share of transportation system usage
  - RTP/SCS investments
- Distribution of travel time savings and travel distance reductions
- Geographic distribution of transportation investments (NEW in 2016)
- Jobs-housing imbalance or jobs-housing mismatch
- Impacts from funding through mileage-based user fees
- Accessibility to employment and services
- Accessibility to parks and schools
- Gentrification and displacement
- Air quality impacts along freeways
- Emissions impacts
- Aviation noise impacts
- Roadway noise impacts
- Active transportation hazards (NEW in 2016)
- Public Health Impacts (NEW in 2016)
- Rail-related impacts
- Climate Vulnerability (NEW in 2016)

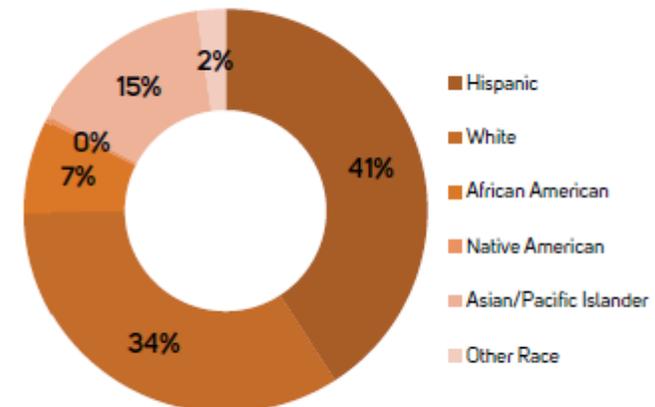
# Performance Indicators - Benefits and Burdens

## Share of Retail & Gasoline Taxes Paid & RTP Investments by Ethnicity



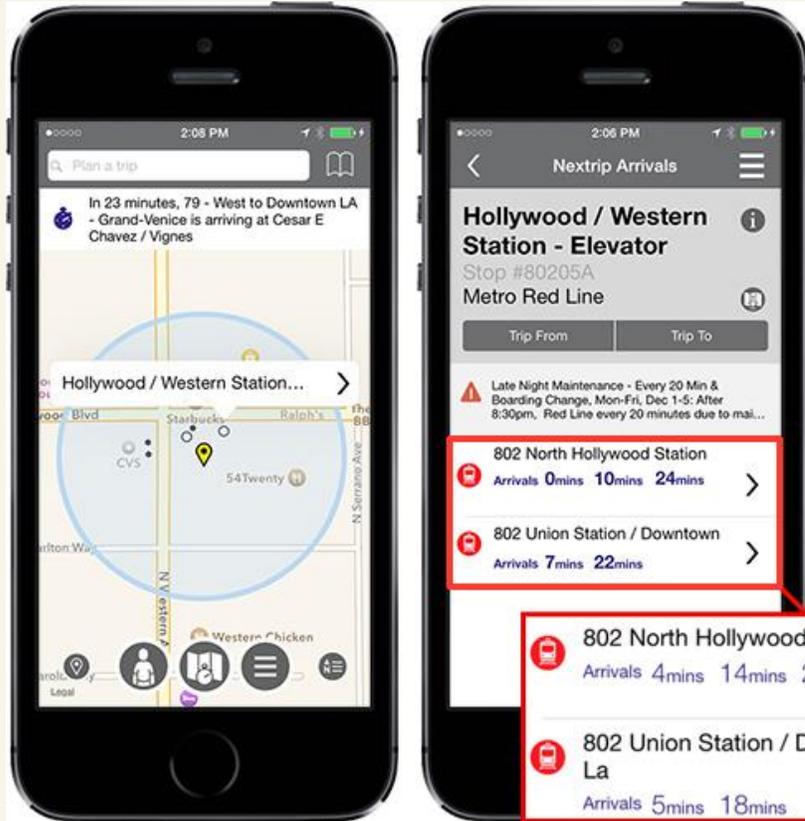
- Examines who will pay for the RTP/SCS and who will benefit from the Plan

2016 RTP/SCS Transportation Investments by Ethnicity



Source: SCAG 2010 Household Travel Survey, 2009 National Household Travel Survey

# Performance Indicators – Travel Time Savings

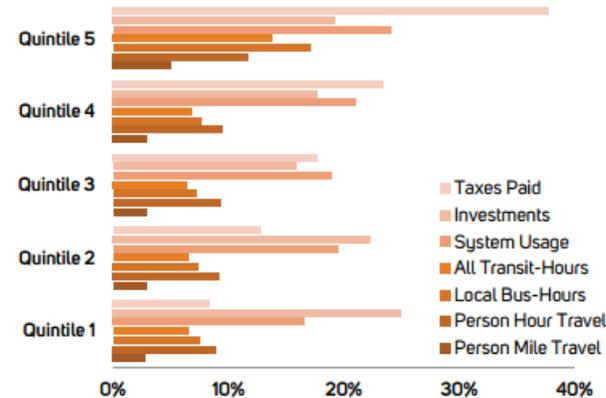


- Examines the potential savings in travel time that results from the 2016 RTP/SCS based on each group's usage of the transportation



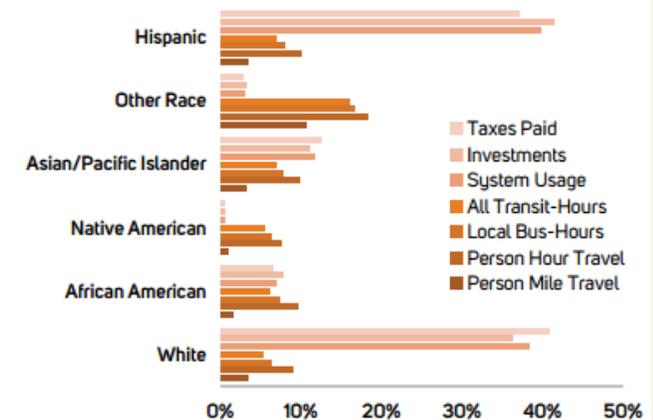
Photos: la.streetsblog.org, OCTA

FIGURE 30 2016 RTP/SCS Improvement on Mobility and Person-Mile Travel by Income Quintile



Source: SCAG 2010 Household Travel Survey, 2009 National Household Travel Survey

FIGURE 31 2016 RTP/SCS Improvement on Mobility and Person-Mile Travel by Ethnicity



Source: SCAG 2010 Household Travel Survey, 2009 National Household Travel Survey

# Performance Indicators – Geographic Distribution of Transportation Investments

- Examines where transportation investments will occur throughout the region and in communities of concern

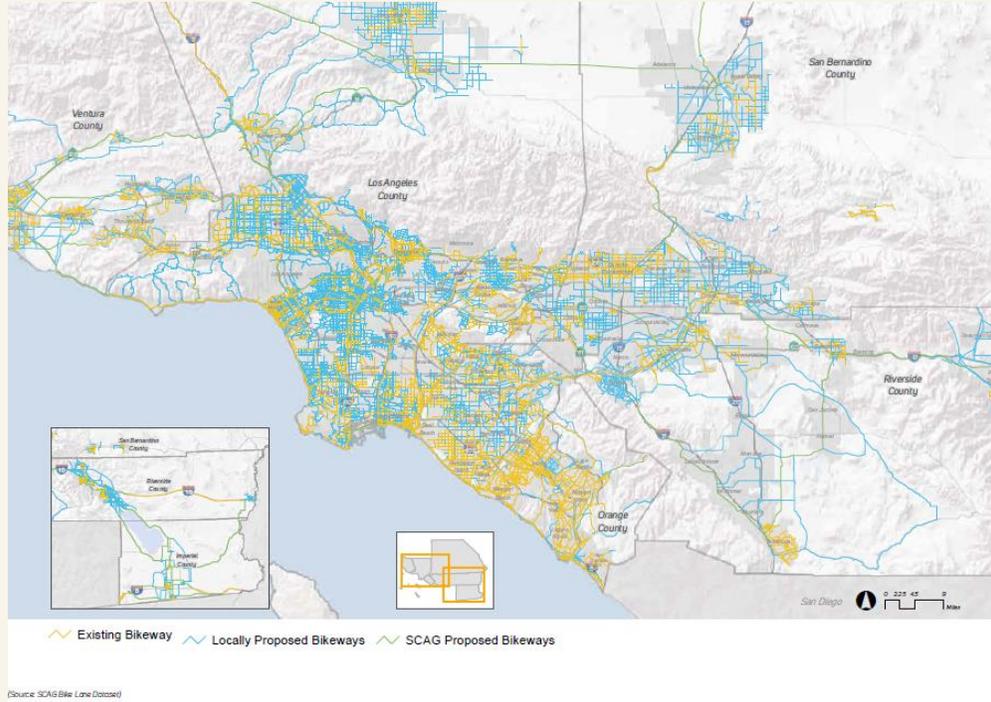


TABLE 30 RTP Highway Lane Mileage Share by Type

Project Type	Region	EJA	DAC	CoC	Urban	Rural
Express	25%	61%	47%	14%	89%	11%
HOV	25%	56%	42%	15%	89%	11%
Mixed-Flow	27%	58%	45%	19%	55%	45%
Toll (excl. Freight)	24%	47%	16%	5%	68%	32%
<b>Region</b>	<b>100%</b>	<b>56%</b>	<b>38%</b>	<b>14%</b>	<b>75%</b>	<b>25%</b>

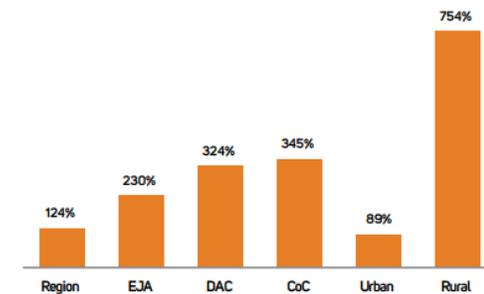
Source: SCAG

TABLE 31 RTP Transit Mileage Share by Mode

Mode	Region	EJ	DAC	CoC	Urban	Rural
Local Bus	17%	66%	35%	10%	100%	0%
Express Bus	26%	54%	36%	14%	90%	9%
Rapid Bus	30%	80%	53%	37%	100%	0%
BRT	2%	89%	80%	62%	100%	0%
Heavy/Light Rail	12%	75%	57%	44%	100%	0%
Metrolink	10%	54%	55%	23%	98%	2%
High Speed Rail	4%	63%	30%	10%	48%	52%
<b>TOTAL</b>	<b>100%</b>	<b>68%</b>	<b>46%</b>	<b>26%</b>	<b>95%</b>	<b>5%</b>

Source: SCAG

FIGURE 33 Bicycle mileage increased from 2012 to 2040 plan



Source: SCAG

# Performance Indicators – Job Housing Balance



- Looks at the travel behavior of commuters and their relative incomes

Also the distribution of low wage jobs and affordable housing throughout the region

TABLE 34 Median Commute Distance (in Miles) by Wage in the SCAG Region, 2002-2012

		2012			
Origin	Destination	All Jobs	Low Wage	Med. Wage	High Wage
SCAG	SCAG	10.1	9.0	9.7	11.3
Imperial	SCAG	8.5	6.3	9.1	9.6
Los Angeles	SCAG	9.1	8.1	8.9	10.1
Orange	SCAG	9.8	8.9	8.9	10.8
Riverside	SCAG	16.6	14.8	14.9	19.3
San Bernardino	SCAG	16.2	14.7	15.1	18.2
Ventura	SCAG	11.2	11.7	10.0	12.0

(Note: 'Low Wage' = Jobs with earnings \$1250/month or less; 'Med. Wage' = Jobs with earnings \$1251/month to \$3333/month; 'High Wage' = Jobs with earnings greater than \$3333/month)

Source: SCAG, U.S. Census Bureau. 2015. LODES Data. Longitudinal-Employer Household Dynamics Program

TABLE 35 Job-to-Worker Ratio by Wage in the SCAG Region, 2012

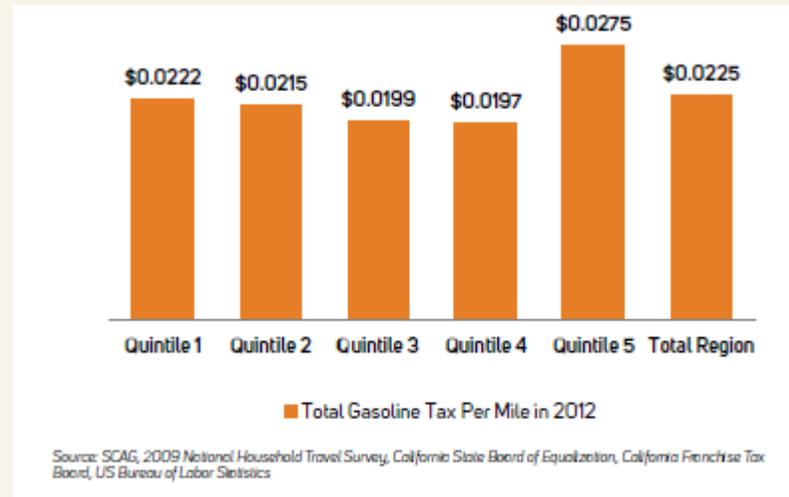
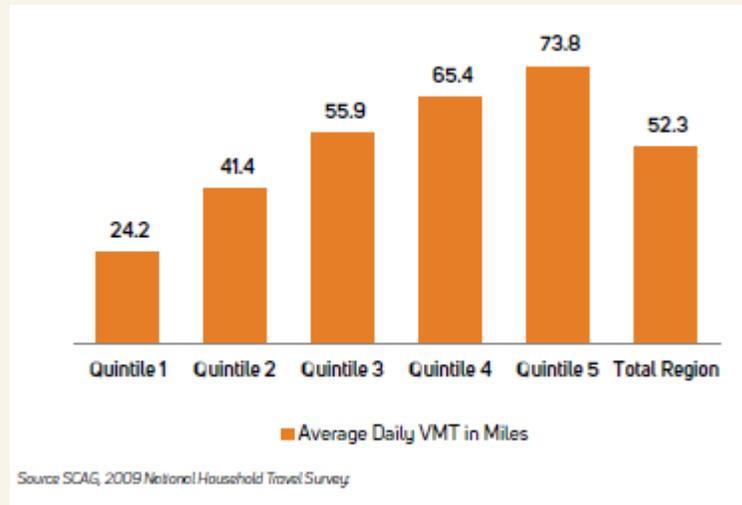
County	All Jobs	Low Wage	Med. Wage	High Wage
Imperial	0.94	0.93	0.93	1.01
Los Angeles	1.17	1.09	1.18	1.23
Orange	1.13	1.16	1.13	1.11
Riverside	0.86	0.88	0.85	0.88
San Bernardino	0.91	0.93	0.9	0.92
Ventura	0.91	0.97	0.91	0.86

Source: SCAG, U.S. Census Bureau. 2015. LODES Data. Longitudinal-Employer Household Dynamics Program

# Performance Indicators – Mileage-Based User Fee



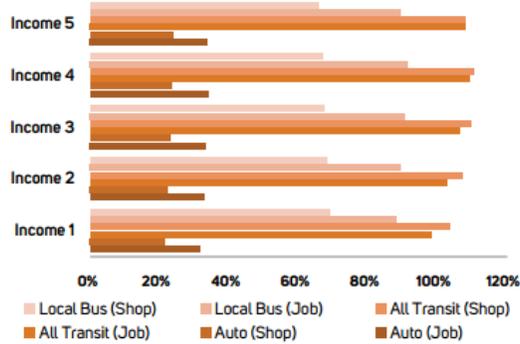
- Examines the regressive impact of the gasoline tax on low income households and compares the mileage-based user fee



# Performance Indicators – Accessibility to Employment and Services

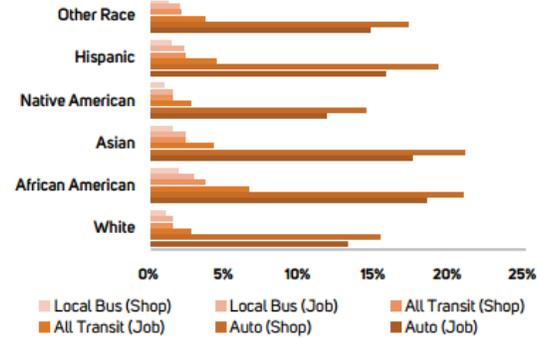


FIGURE 42 2016-2040 RTP/SCS Impacts on Job and Shopping Accessibility: Income



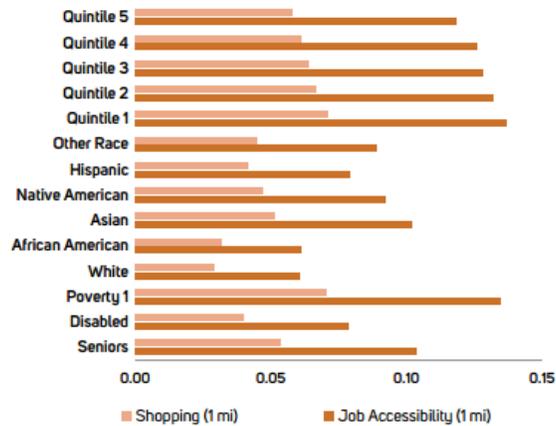
Source: SCAG

FIGURE 43 2016-2040 RTP/SCS Impacts on Job and Shopping Accessibility: Ethnicity



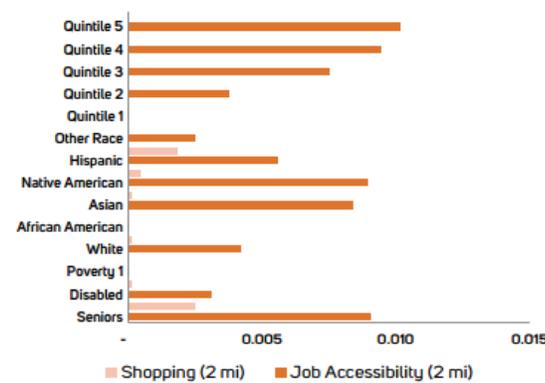
Source: SCAG

FIGURE 58 2016-2040 RTP/SCS Impacts on Job and Shopping Accessibility within One Mile



Source: SCAG

FIGURE 59 2016-2040 RTP/SCS Impacts on Job and Shopping Accessibility within Two Mile

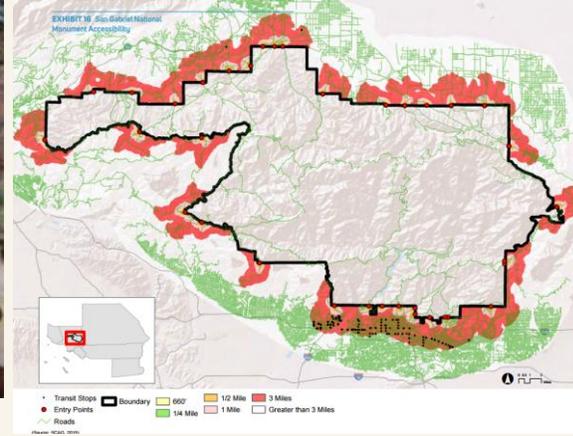


Source: SCAG

- Looks at the accessibility to employment, shopping destinations, and hospitals within a 30 minute travel area by car and 45 minute travel area by transit (rail and bus), also looks at the share of destinations within a 1 and 2 mile travel distance by EJ group

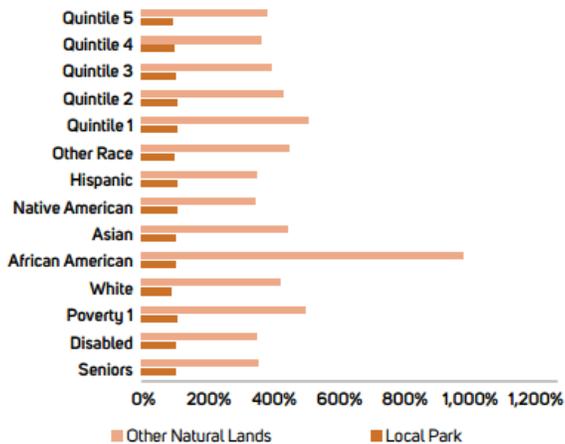
Photos: Metro, OCBC

# Performance Indicators – Accessibility to Parks and Schools



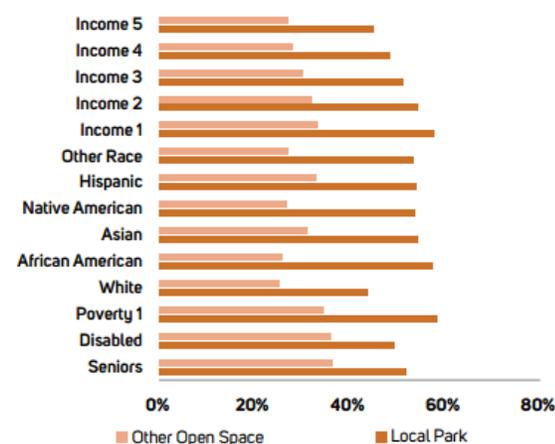
- Looks at the accessibility to local and regional parks within a 45 minute travel area by car and transit (rail and bus), also looks at the share of population within 1 and 2 miles travel distance of the region's parks and schools

FIGURE 64 Improvements in Park Accessibility by All Transit within 45 Minutes of Travel (2040)



Source: SCAG

FIGURE 65 Improvements in Park Accessibility by Local Bus within 45 Minutes of Travel (2040)

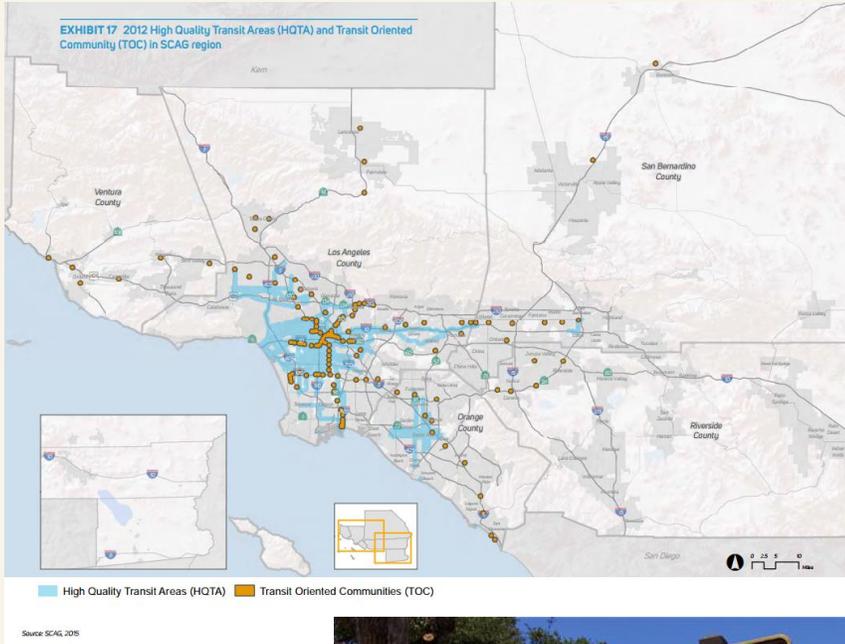


Source: SCAG

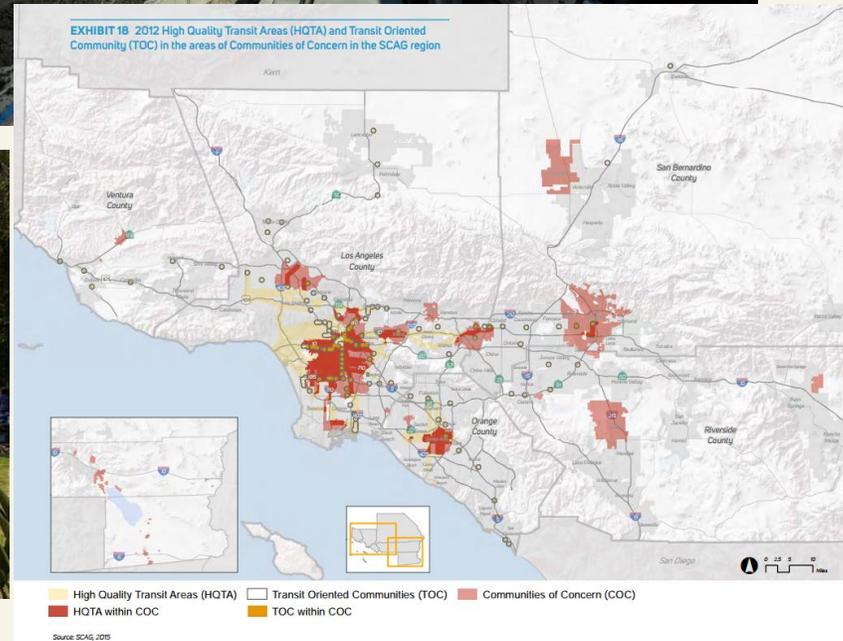


Photos: ClimateResolve.org, National Park Service

# Performance Indicators – Gentrification and Displacement



- Examines historical trends in high quality transit areas and neighborhoods in close proximity to rail transit stations



# Performance Indicators – Gentrification and Displacement (continued)

TABLE 57 Share of HQTA and TOC in Areas of Concern

Area	SCAG	Communities of Concern	SB 535 Disadvantaged Communities	Environmental Justice Areas	Urban Areas	Rural Areas
HQTA	1.27%	26.08%	2.09%	1.23%	9.63%	0.01%
TOC	0.25%	4.93%	0.48%	0.23%	1.86%	0.01%

Source: SCAG

TABLE 58 Population Growth (Unit: thousand)

	Total	HQTA	Non HQTA	TOC			Rest HQTA (HQTA-TOC)
				Total	Built before 2000	Built after 2000	
Population from 2000 Census	16,663	5,187	11,476	970	751	219	4,217
Population from 2009-13 ACS	18,227	5,283	12,944	998	771	227	4,286
Growth	9.4%	1.9%	12.8%	2.9%	2.7%	3.7%	1.6%

Source: SCAG staff processed 2000 Census and 2009-13 ACS data

TABLE 61 Median Household Income

	Total	HQTA	Non HQTA	TOC			Rest HQTA (HQTA-TOC)
				Total	Built before 2000	Built after 2000	
2000 Census	\$65,968	\$54,237	\$76,783	\$46,598	\$48,022	\$43,116	\$53,195
2009-2013	\$59,561	\$49,793	\$68,780	\$44,005	\$44,143	\$41,803	\$49,395
Growth	-9.7%	-8.1%	-9.5%	-5.8%	-8.1%	-3.0%	-7.6%

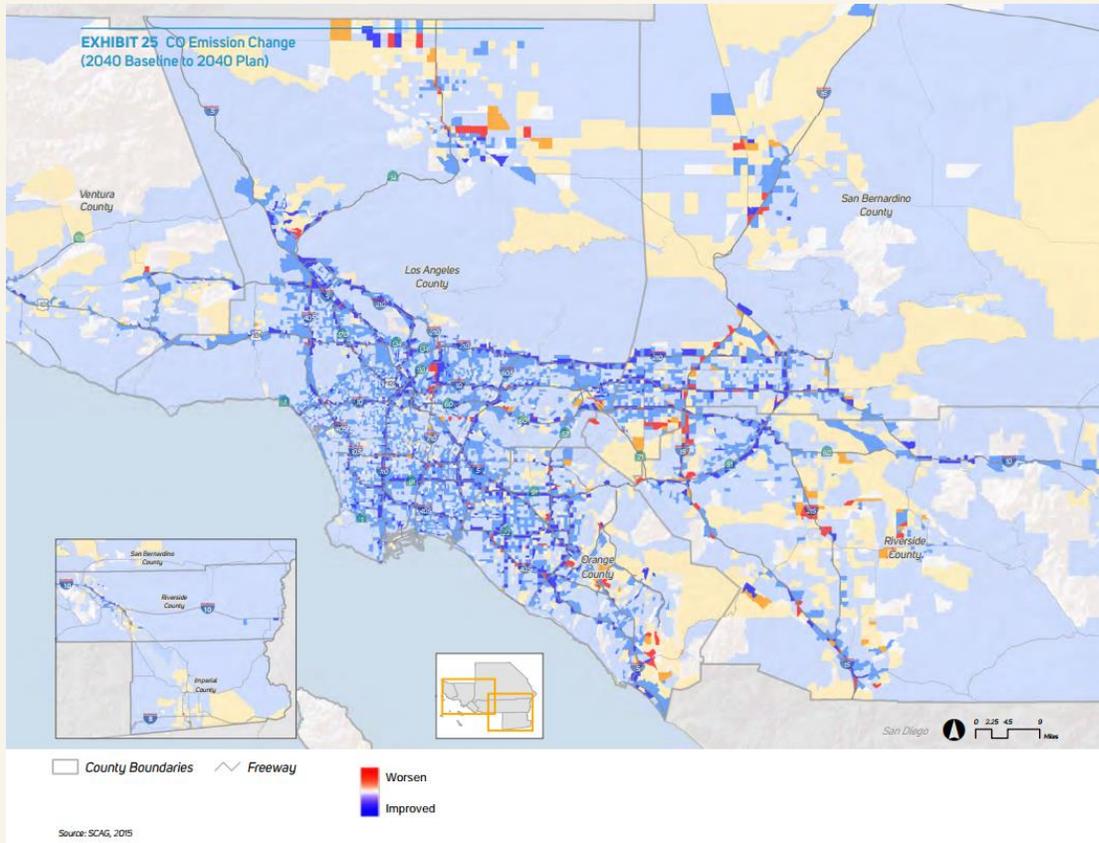
SCAG staff processed 2000 Census and 2009-13 ACS data  
Note: all incomes show 2013 inflation-adjusted US dollars

TABLE 70 T-test of the Selected Variables between TOC and Other Areas for the Growth from 2000 to 2009-2013

Variables	TOC	TOC vs. SCAG		TOC vs. HQTA		TOC vs. Rest HQTA (HQTA-TOC)	
	Growth	Growth	p-value	Growth	p-value	Growth	p-value
Hispanic	4.6%	23.6%	***	5.1%		5.3%	
Seniors (+ 65)	16.6%	22.6%	***	15.0%		14.7%	
Household w/o cars	-17.7%	-18.2%	***	-20.3%		-21.3%	
Median Household Income	-5.8%	-9.7%	***	-8.1%	*	-7.6%	*
Median Gross Rent	19.1%	17.6%	***	18.1%	*	18.6%	*
Population	2.9%	9.4%		1.9%		1.6%	
Household	7.1%	6.7%	**	3.0%		2.1%	
Renter	7.8%	9.6%	*	4.6%		3.7%	

- Examines historical three performance indicators:
  - Growth
  - Economy
  - Equity, Ethnicity, and Sustainability

# Performance Indicators – Emissions Impacts



- Examines air quality impacts for particulate matter and carbon monoxide of the RTP/SCS at the regional level and for SCAG's environmental justice areas

TABLE 72 CO Emission Reductions

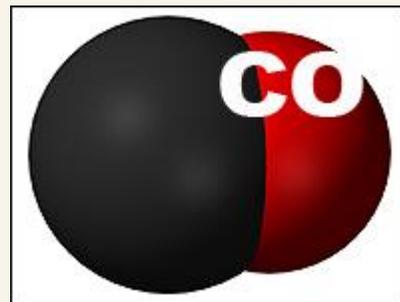
	Region	EJA	DAC	CoC	Urban	Rural
2012 Base Year vs. 2040 Baseline	79%	79%	79%	80%	80%	72%
Baseline vs. Plan	9%	9%	9%	9%	10%	7%

Source: SCAG

TABLE 73 PM<sub>2.5</sub> Emission Reductions

	Region	EJA	DAC	CoC	Urban	Rural
2012 Base Year vs. 2040 Baseline	27%	28%	30%	25%	25%	33%
Baseline vs. Plan	6%	6%	5%	6%	6%	3%

Source: SCAG



# Performance Indicators – Air Quality Impacts Along Highways



- Examines air quality impacts of the RTP/SCS for areas in close proximity to highways

TABLE 82 Emissions along Freeways and Highly Traveled Corridors

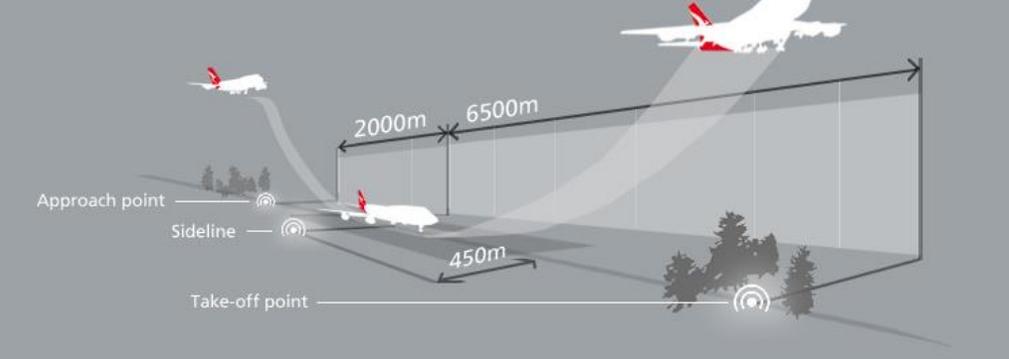
Criteria Pollutant	Emissions within 500-Foot of Freeways (Tons per Day)			Emissions in the SCAG Region (Tons per Day)			Decrease in Emissions within 500-Foot Freeways		Decrease in Emissions in the SCAG Region	
	Base Year 2012	2040 Baseline	2040 Plan	Base Year 2012	2040 Baseline	2040 Plan	Base Year 2012 to 2040 Baseline	2040 Baseline to 2040 Plan	Base Year 2012 to 2040 Baseline	2040 Baseline to 2040 Plan
CO	445	89	80	1,545	326	296	-80%	-9%	-79%	-9%
PM <sub>2.5</sub>	5.0	3.5	3.4	176	12.9	12.2	-28%	-6%	-27%	-6%

Source: SCAG



# Performance Indicators – Aviation Noise Impacts

Ground noise measurement locations



## METHODOLOGY

To identify potentially impacted populations, the anticipated population within the 65 dB CNEL contour was calculated using the following steps:

- Use the Integrated Noise Model (INM) to generate aviation noise contour of 65 dB (community noise equivalent - CNEL), based on the estimated noise analysis from the aviation technical information in SCAG's 2001 RTP. Note that the noise contours estimated from the 2001 planning cycle represent potentially the largest noise contour areas in recent years, due to trends in the industry that have been signaling the adoption of quieter airplane engines and less aviation operations.
- Identify areas of concern within the aviation noise zone.
- Estimate and compare to the greater region the share of environmental justice groups for each area of concern within the noise zone.

- Examines population in areas incurring aviation noise at or above 65 dB Community Noise Equivalent Level (CNEL), a measure of noise that takes into account both the number and the timing of flights, as well as the mix of aircraft types

TABLE 84 EJ Variables within the Aviation 65-dB Noise Impacted Areas for 2016 RTP/SCS

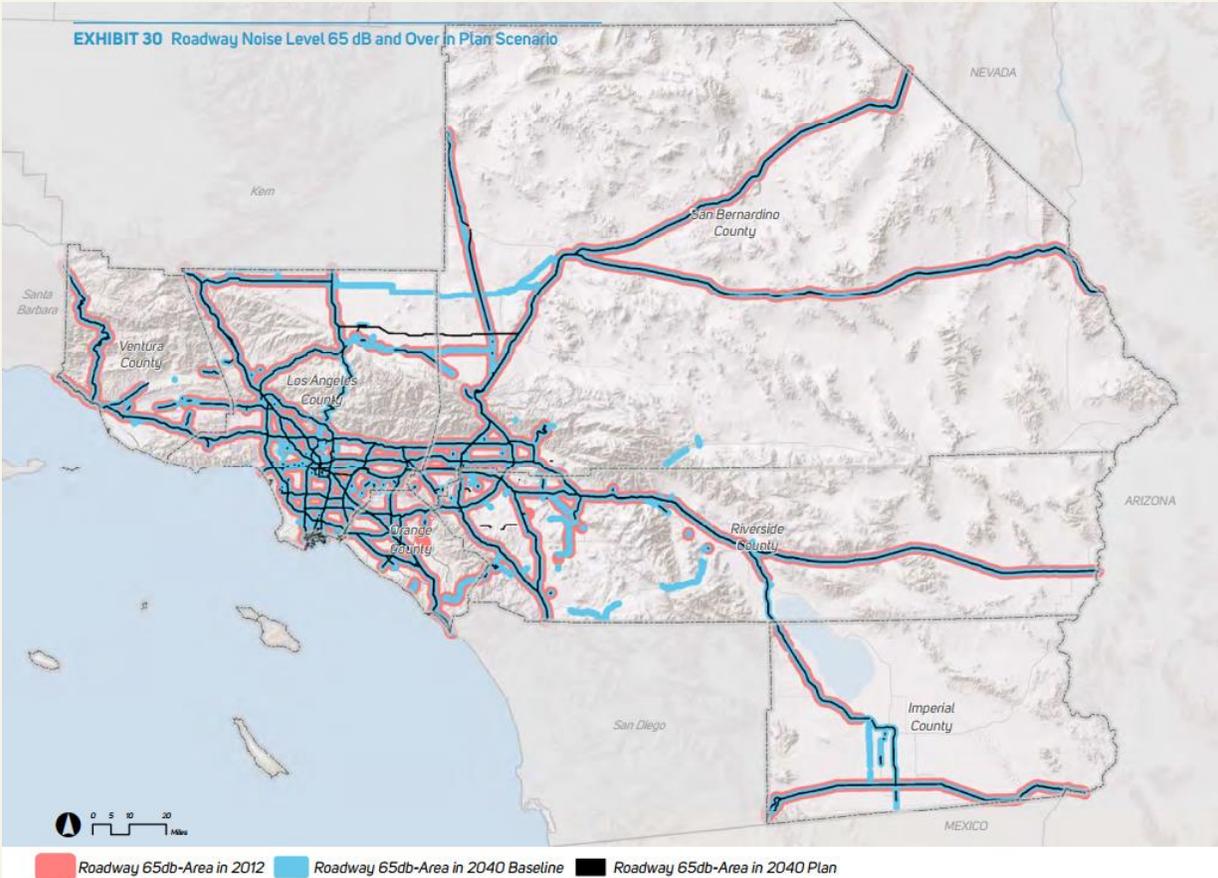
	2012 Base Year		2040 Baseline		2040 Plan		Plan - Baseline	Percent Difference
	Population	%	Population	%	Population	%		
Population	91,928	0.5%	156,253	0.7%	134,277	0.6%	(21,976)	-14%
Hispanic	50,773	55%	86,253	55%	74,965	56%	(11,288)	-13%
White	12,873	14%	20,004	13%	17,622	13%	(2,383)	-12%
African American	23,096	25%	30,563	20%	24,711	18%	(5,852)	-19%
Native American	158	0%	430	0%	378	0%	(52)	-12%
Asian & PI	3,173	3%	14,343	9%	12,647	9%	(1,697)	-12%
Other Races	1,855	2%	4,659	3%	3,954	3%	(705)	-15%



Figure: Qantas

# Performance Indicators – Roadway Noise Impacts

EXHIBIT 30 Roadway Noise Level 65 dB and Over in Plan Scenario



- Examines population in areas incurring noise along roadways at or above 65 dB Community Noise Equivalent Level (CNEL), which accounts for traffic volume, speed, and vehicle types including heavy duty trucks

TABLE 88 Distribution of EJ population within 65-dB Roadway Noise Area

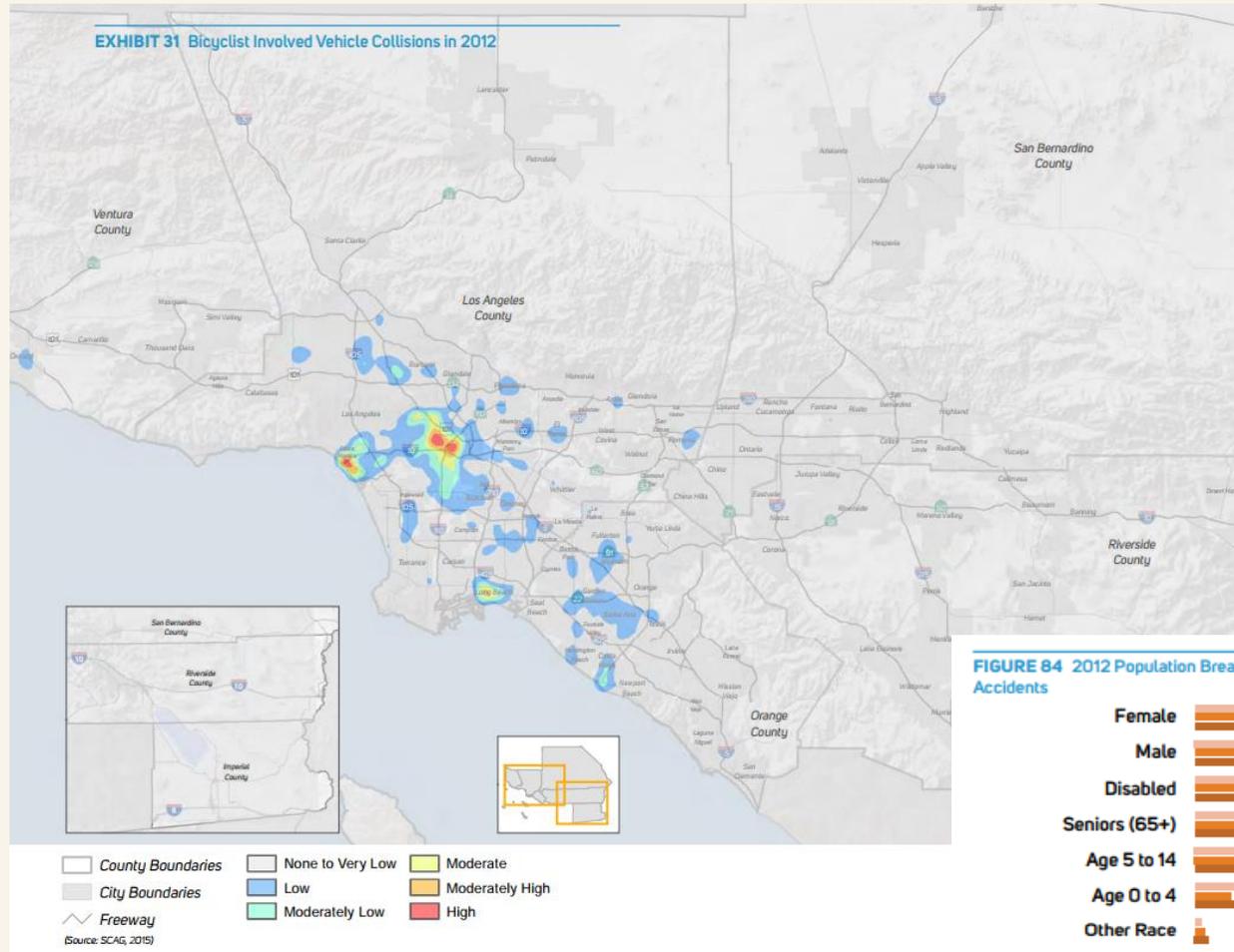
	2012 Base Year						2040 Baseline						2040 Plan					
	Within 65 dB (2012)						Within 65 dB (2040)						Within 65 dB (2040)					
	Region	EJA	DAC	CoC	Urban	Rural	Region	EJA	DAC	CoC	Urban	Rural	Region	EJA	DAC	CoC	Urban	Rural
<b>Population</b>	<b>2.0%</b>	<b>74.1%</b>	<b>53.0%</b>	<b>27.5%</b>	<b>99.5%</b>	<b>0.4%</b>	<b>2.3%</b>	<b>71.8%</b>	<b>51.2%</b>	<b>26.4%</b>	<b>98.6%</b>	<b>1.4%</b>	<b>2.4%</b>	<b>71.4%</b>	<b>51.6%</b>	<b>26.3%</b>	<b>98.7%</b>	<b>1.3%</b>
Hispanic	51.5%	60.6%	65.9%	73.1%	51.6%	37.2%	56.2%	61.5%	64.3%	69.4%	56.2%	57.7%	56.3%	61.9%	64.6%	69.6%	56.3%	58.0%
White	26.5%	16.8%	13.1%	8.1%	26.4%	50.4%	18.6%	13.6%	12.0%	9.4%	18.6%	21.2%	18.5%	13.4%	11.9%	9.3%	18.5%	20.5%
African American	6.5%	7.6%	7.9%	10.2%	6.5%	3.5%	5.0%	5.5%	5.5%	6.3%	5.0%	5.6%	5.0%	5.5%	5.4%	6.2%	4.9%	5.6%
Native American	0.3%	0.3%	0.2%	0.2%	0.2%	2.6%	0.3%	0.3%	0.3%	0.3%	0.3%	1.0%	0.3%	0.3%	0.3%	0.3%	0.3%	1.0%
Asian	12.9%	12.9%	11.2%	7.2%	13.0%	3.6%	17.0%	16.5%	15.5%	12.5%	17.0%	11.4%	16.9%	16.3%	15.4%	12.5%	17.0%	11.7%
Other Race	2.2%	1.9%	1.6%	1.2%	2.2%	2.6%	2.9%	2.6%	2.4%	2.1%	2.9%	3.2%	2.9%	2.6%	2.4%	2.1%	2.9%	3.2%

Photo: RCTC

Source: SCAG, 2015

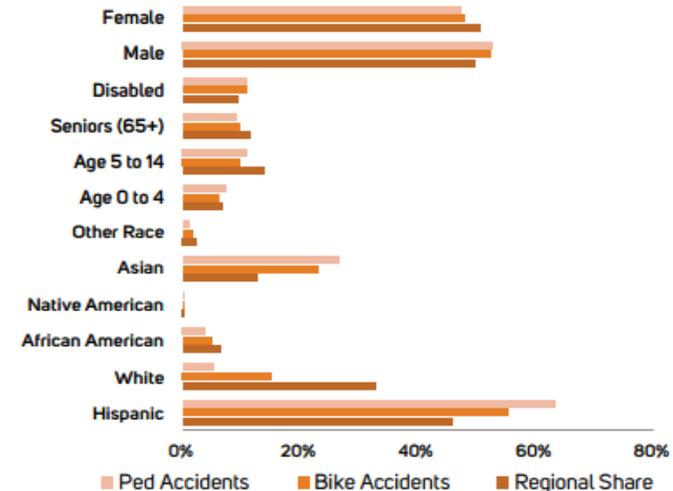


# Performance Indicators – Active Transportation Hazards



- Examines population in areas that experience the highest levels of bicycle and pedestrian collisions in recent periods

**FIGURE 84 2012 Population Breakdown of SCAG region and High Concentrated Area of Bike and Ped Accidents**

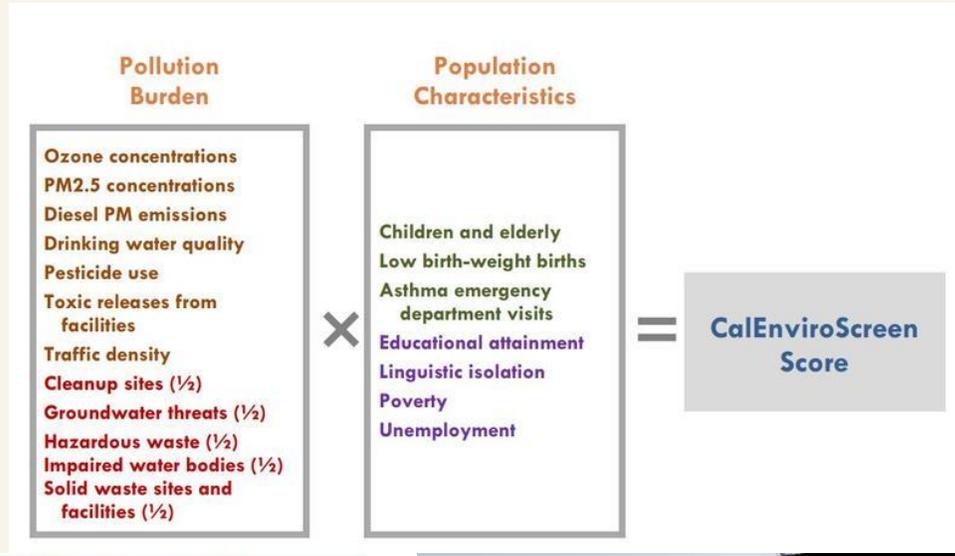
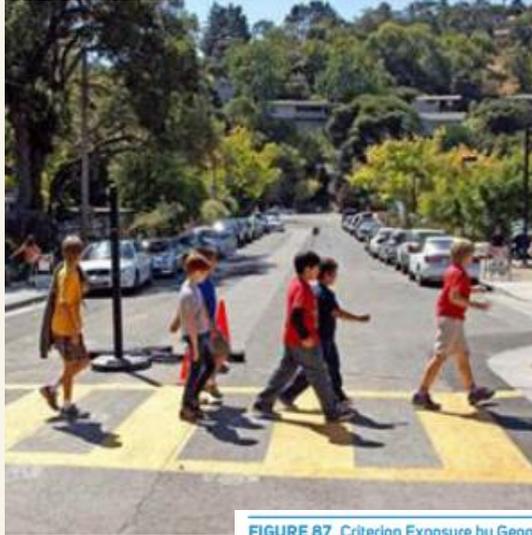


Source: SCAG, SWITRS

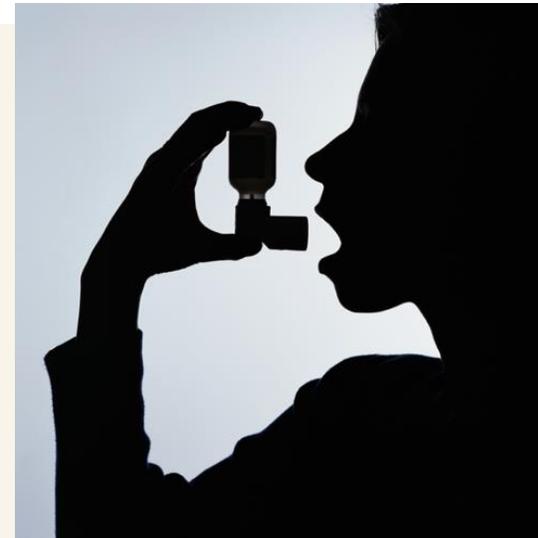
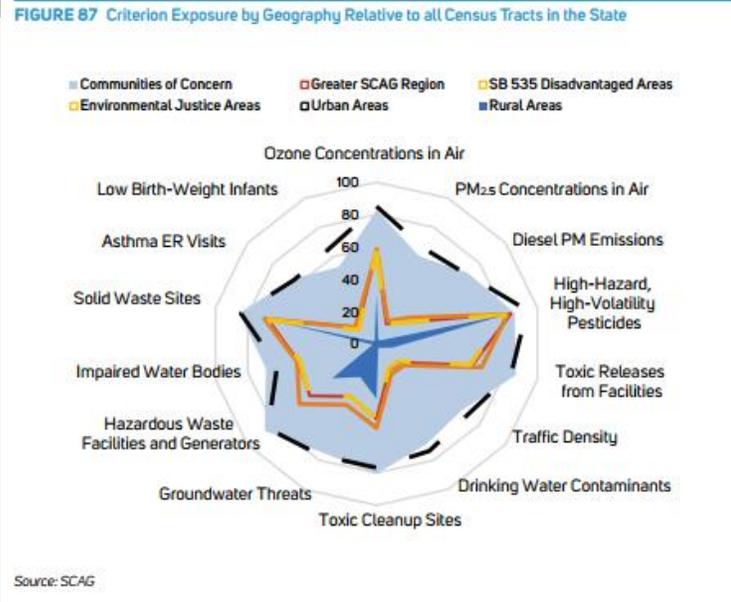


Photos: Metro, Safe Routes to School

# Performance Indicators – Public Health Impacts



- Examines existing public health conditions throughout the region based on Cal/EPA's CalEnviroScreen data



# Performance Indicators – Rail Related Impacts

**TABLE 90** Distribution of Environmental Justice Demographic Groups in the Railroad Adjacent Areas

	Within 500-Foot of Railroads			SCAG Region		
	Base Year 2012	2040 Baseline	2040 Plan	Base Year 2012	2040 Baseline	2040 Plan
<b>Population</b>						
Hispanic	63.1%	64.2%	63.9%	45.7%	52.3%	52.3%
White	18.6%	14.3%	14.4%	32.7%	22.4%	22.4%
African American	6.1%	4.7%	4.7%	6.4%	5.3%	5.3%
Native American	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Asian	10.2%	14.1%	14.3%	12.5%	16.4%	16.4%
Other Races	1.6%	2.4%	2.4%	2.4%	3.1%	3.1%

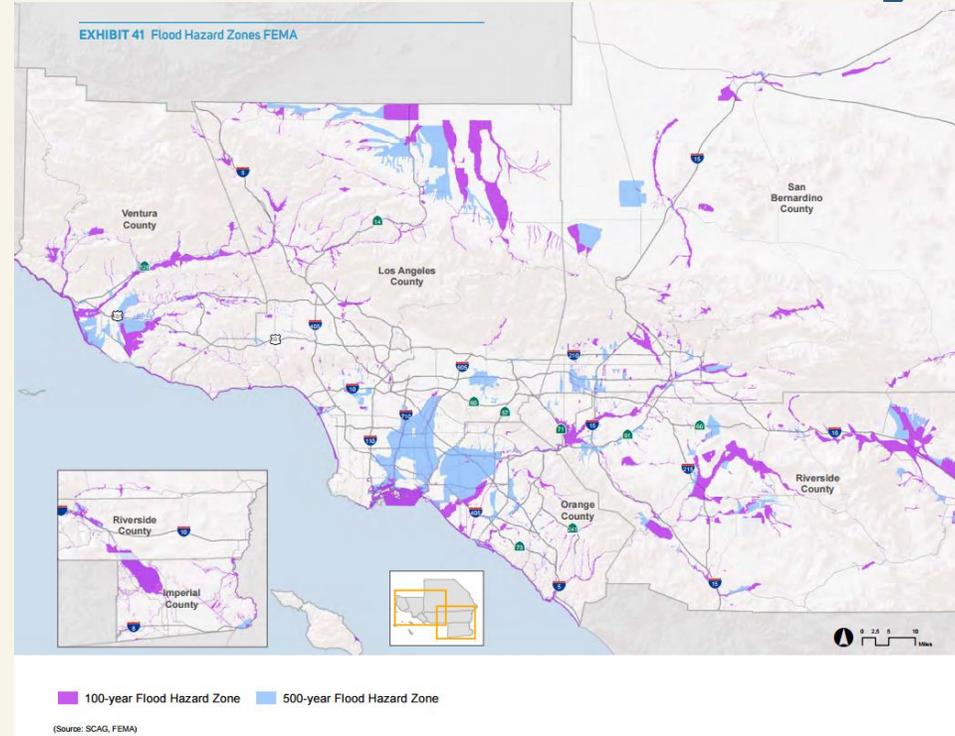
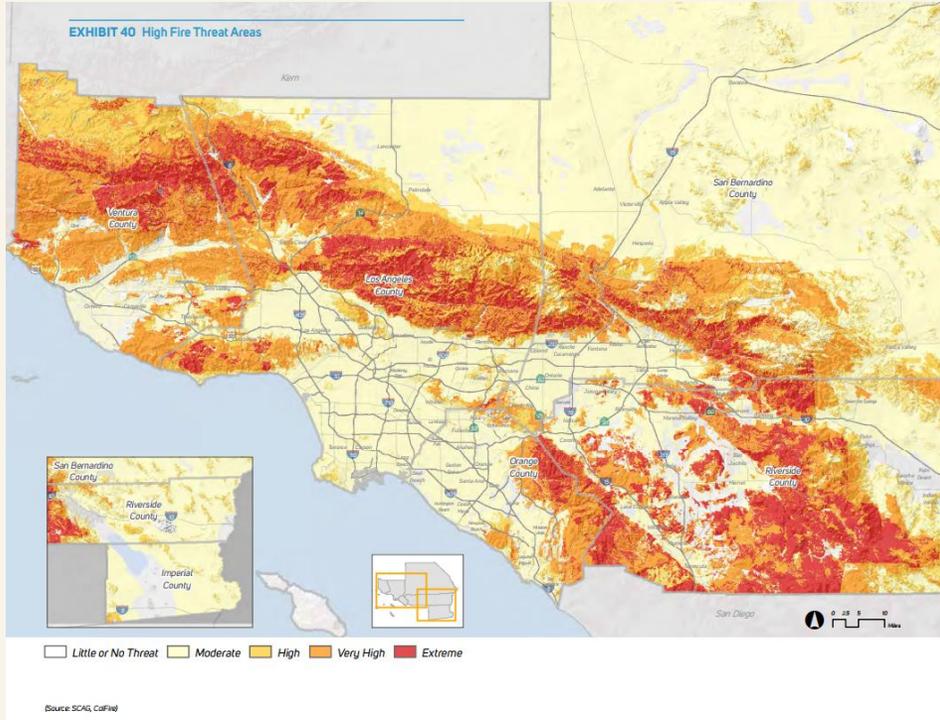
**TABLE 91** Distribution of Environmental Justice Demographic Groups in the Areas Adjacent to Grade Separation Projects

	Within 500-Foot of Grade Separation Projects			SCAG region		
	Base Year 2012	2040 Baseline	2040 Plan	Base Year 2012	2040 Baseline	2040 Plan
<b>Population</b>						
Hispanic	62.0%	64.2%	64.2%	45.7%	52.3%	52.3%
White	18.2%	13.5%	13.3%	32.7%	22.4%	22.4%
African American	2.8%	3.3%	3.4%	6.4%	5.3%	5.3%
Native American	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Asian & PI	15.1%	16.6%	16.7%	12.5%	16.4%	16.4%
Other Races	1.6%	2.1%	2.1%	2.4%	3.1%	3.1%

- Examines population living in close proximity to freight/commuter rail lines, along with future grade separations



# Performance Indicators – Climate Vulnerability



Examines conditions in environmental justice communities related to potential climate vulnerability (e.g. sea level rise, wildfire risk)

**TABLE 95 Impacts of Potential Adaptation Policies on EJ Populations**

Climate Adaptation Policy	Source	Potential Impact on EJ Populations		
		Spatial	Financial	Health
Select materials/designs to improve road resiliency to high temperatures, and to reduce heat retention	State of California	New/reconstructed roads may run through vulnerable communities (-); investment could be prioritized for most vulnerable areas (+)	Higher cost treatments could divert funds from transit, other measures (-); could save costs in long term by avoiding need for reconstruction (+)	Noise impacts; air pollution impacts during construction and use (-). Reduce heat island impacts (+).
Fortify roadways vulnerable to storm surge and sea-level rise	City of Chula Vista; State of California	Roads may run through vulnerable communities (-); Could protect such communities, e.g. during evacuations (+)	Higher cost treatments could divert funds from transit, other measures (-); could save costs in long term by avoiding need for reconstruction (+)	Noise impacts; air pollution impacts during construction and use (-); Could improve safety (+)
Increasing shade trees	Western Riverside Council of Governments (WRCOG); City of Chula Vista	Investment could be prioritized for most vulnerable areas (+)	Funding greater availability of shade trees could divert funds from other measures (-); Shading can reduce cooling costs (+); Increased greening may increase gentrification/housing cost pressures (-)	Visual impacts (+); Reduction in ambient temperatures (+); Reduction in stress (+)



# Local Strategies to Address Environmental Justice

## ENVIRONMENTAL JUSTICE TOOLBOX

Building on the foundation of the 2012 RTP/SCS, SCAG has included a toolbox of possible mitigation measures to address potential impacts to environmental justice communities. The toolbox presents optional mitigation recommendations that may be effective in addressing project-specific environmental justice impacts after a comprehensive review of impacts and consultation with all stakeholders. These measures were identified through a review of literature, the PEIR, recent planning activities, and input from stakeholders as part of the environmental justice outreach process.<sup>10</sup> Measures incorporating or referring to compliance with existing regulations are for informational purposes only and do not supersede existing regulations.

## POTENTIAL MITIGATION FOR ACCESS TO PARKS, SCHOOLS, SHOPPING, EMPLOYMENT

- Encourage siting of new parks and recreation amenities in urban and other infill locations.
- Improve active transportation and transit infrastructure to promote accessibility to destinations within short distances.

## POTENTIAL MITIGATION FOR AIR QUALITY IMPACTS ALONG FREEWAYS AND HEAVILY TRAVELED CORRIDORS

Local air districts, local jurisdictions and project sponsors may voluntarily implement measures adopted by ARB designed to attain federal air quality standards for PM<sub>2.5</sub> and eight-hour ozone. ARB's strategy includes the following elements:

- Set technology forcing new engine standards.
- Require clean fuels, and reduce petroleum dependency.
- Work with US EPA to reduce emissions from federal and state sources.
- Pursue near-term advanced technology demonstration and deployment such as:
  - Zero emissions heavy-duty trucks (2013 and beyond)<sup>11</sup>
  - Tier 4 marine engine repowers and replacements (2014 and beyond)
  - Tier 4 and zero emissions railyard equipment (2015 and beyond)<sup>12</sup>
- Pursue long-term advanced technology measures.
- In addition, consider proposed new transportation-related SIP measures including:
  - Improvements and Enhancements to California's Smog Check Program
  - Expanded Passenger Vehicle Retirement
  - Modifications to Reformulated Gasoline Program

- Cleaner In-Use Heavy-Duty Trucks
- Ship Auxiliary Engine Cold Ironing and Other Clean Technology
- Cleaner Ship Main Engines and Fuel
- Port Truck Modernization
- Clean Up Existing Commercial Harbor Craft
- Conduct corridor-level analysis for proposed projects in areas where air quality impacts may be concentrated among environmental justice communities.
- Project sponsors should consider identifying the environmental justice impacts of each project. In consultation with the affected community, mitigation measures can be identified to best address the project's impacts.
- Participate in statewide and regional discussions seeking to balance multiple policy objectives affecting air quality and the siting of transit-oriented development.

Additional input received as part of SCAG's environmental justice public workshops:

- Provide infrastructure for electric vehicles in disadvantaged communities along heavily traveled corridors.

## POTENTIAL MITIGATION FOR ACTIVE TRANSPORTATION HAZARD

- Adopt and institutionalize complete streets policies.
- Adopt a Vision Zero Policy.
- Develop or update transportation infrastructure, such as sidewalks, bicycle lanes, and street lighting to encourage bicycling or walking within communities.
- Partner with local educational institutions to promote active transportation choices.

## POTENTIAL MITIGATION FOR PUBLIC HEALTH IMPACTS

- Fund proactive measures to improve air quality in neighboring homes, schools, and other sensitive receptors.
- Provide public education programs about environmental health impacts to better enable residents to make informed decisions about their health and community.
- Engage in proactive measures to train and hire local residents for construction or operation of the project to improve their economic status and access to health care.

Additional input received as part of SCAG's environmental justice public workshops:

- Engage with local private industry to strengthen public-private partnerships.
- Encourage and sustain linear parks to connect neighborhoods and communities.

- Pages 196 and 197 of the Appendix list strategies for local jurisdictions to improve environmental justice at the local level



Thank you!

Learn more by visiting [www.scag.ca.gov](http://www.scag.ca.gov)

Contact us at: [EnvironmentalJustice@scag.ca.gov](mailto:EnvironmentalJustice@scag.ca.gov).

